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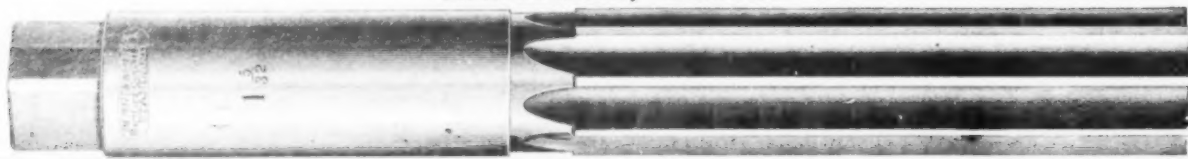
VOL. XLIV.
No. 22.

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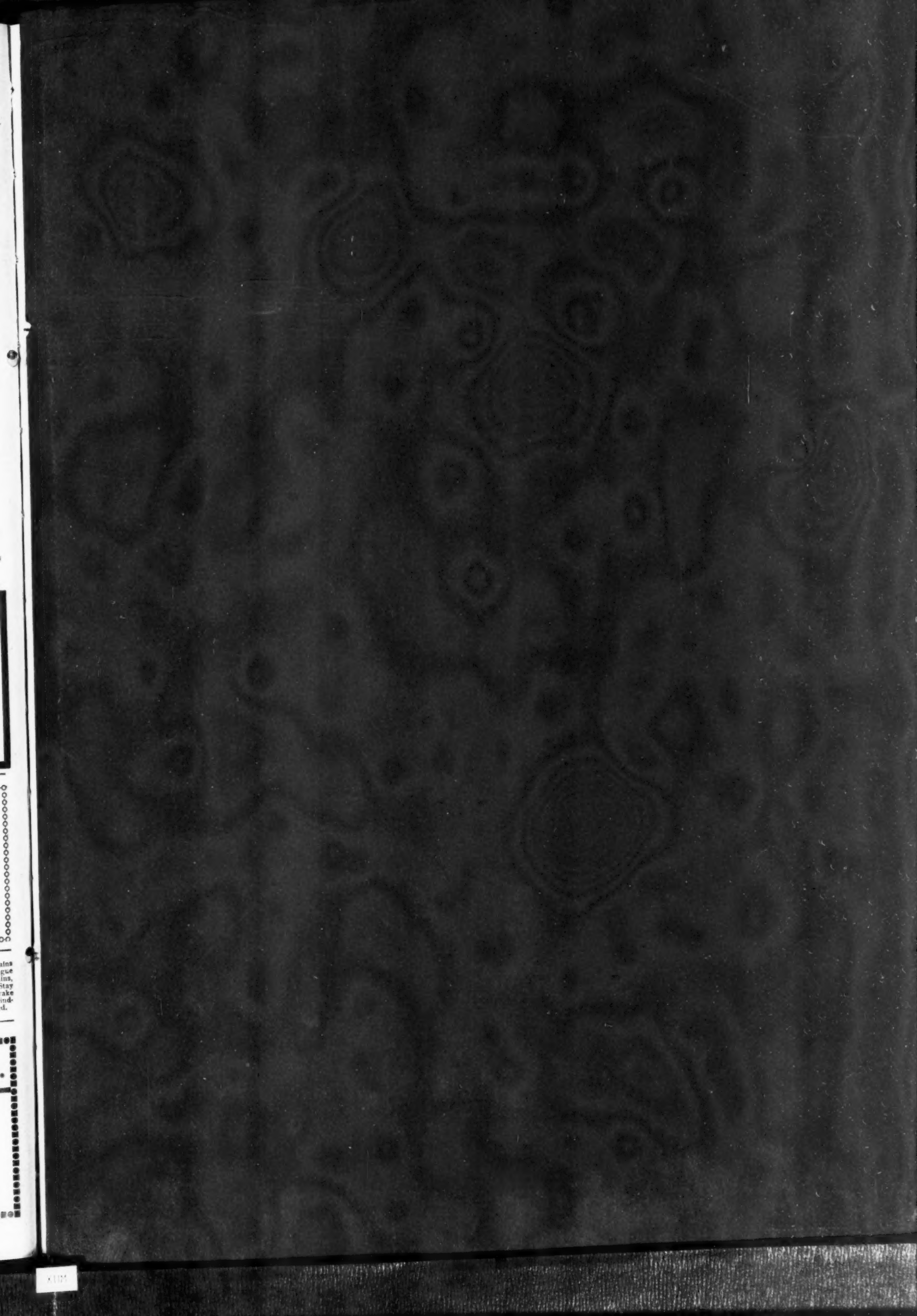
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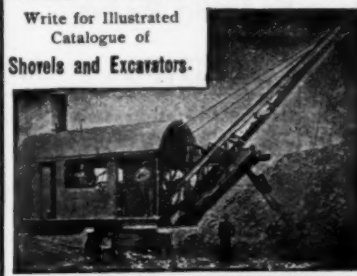
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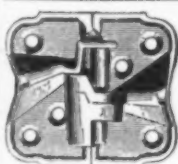
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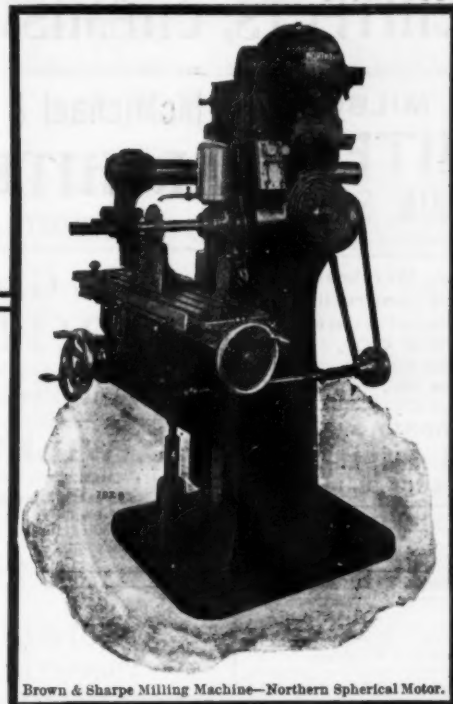
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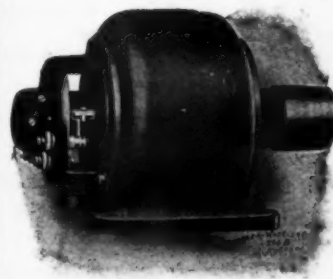
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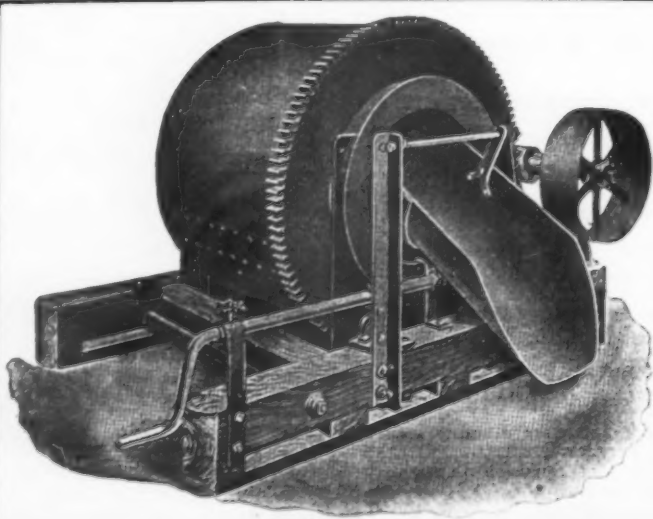
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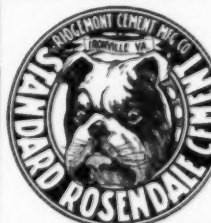
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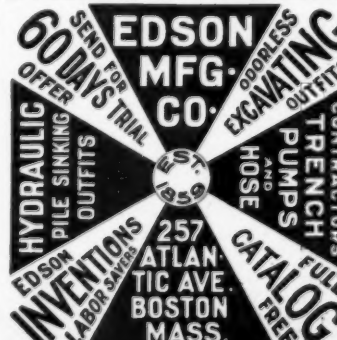
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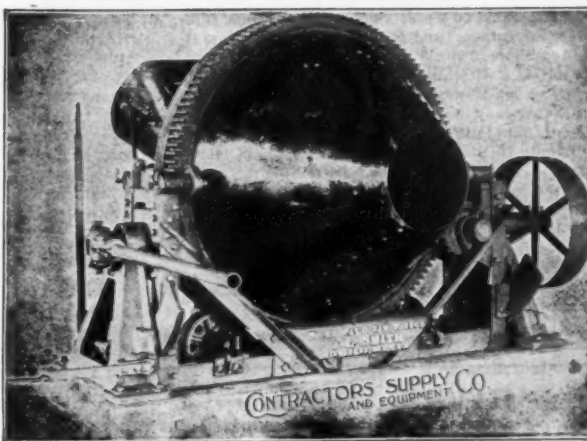
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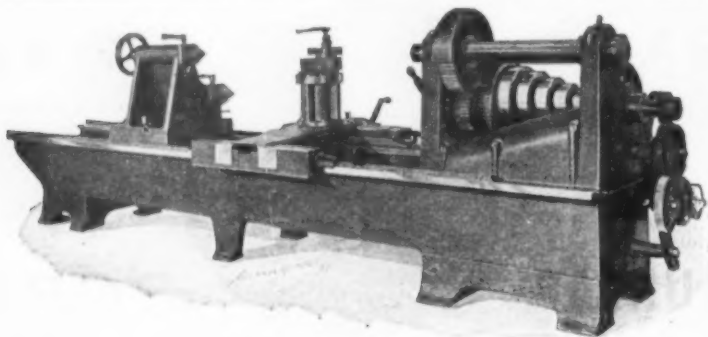
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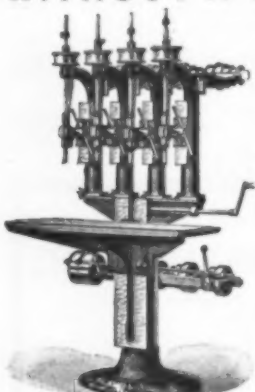
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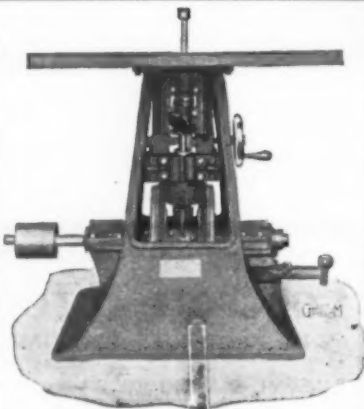
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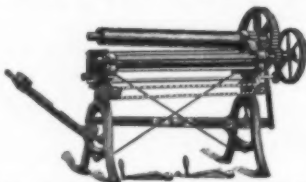


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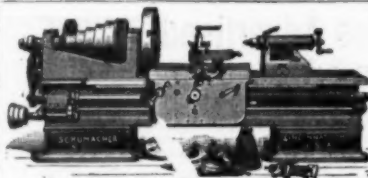
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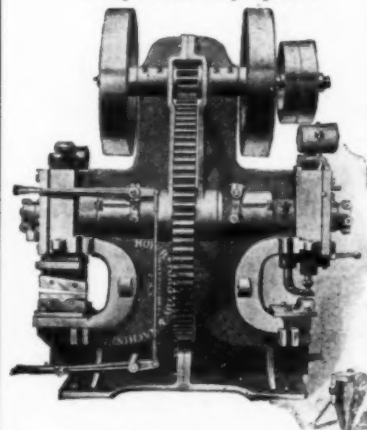
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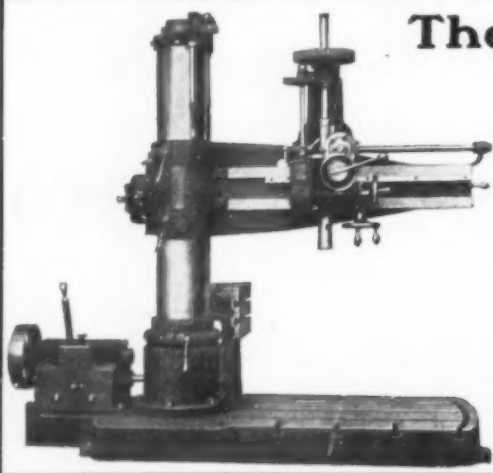
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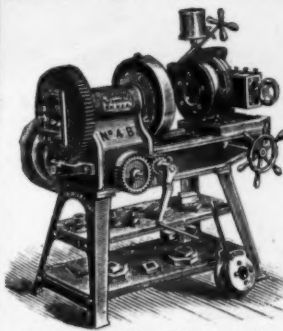
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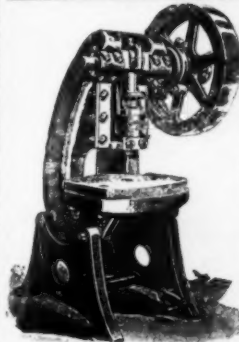
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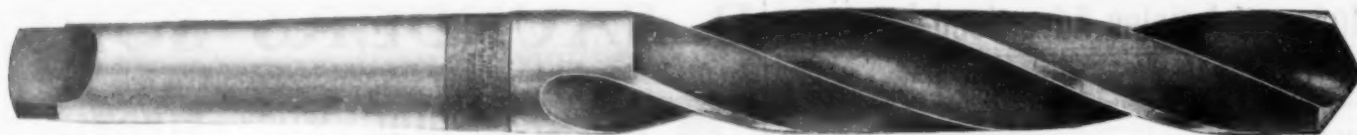
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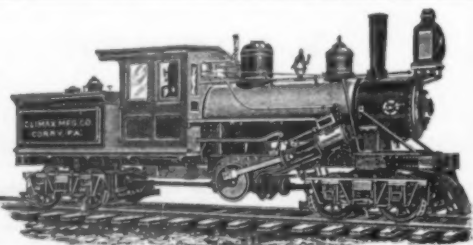
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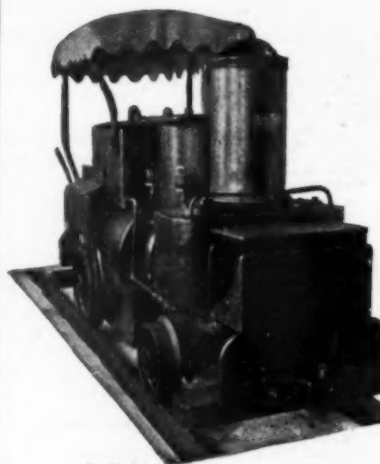
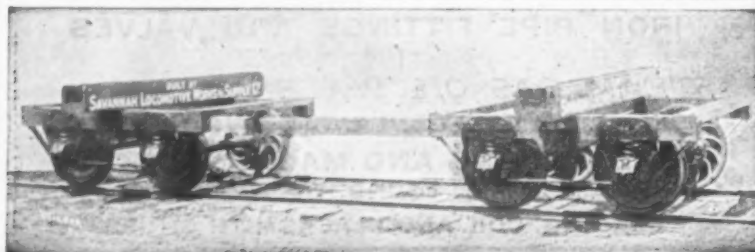
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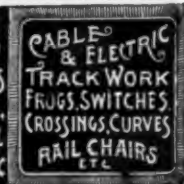


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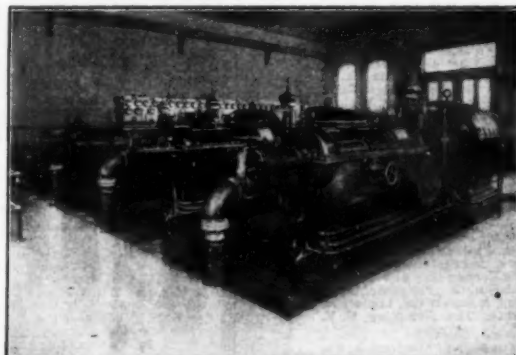
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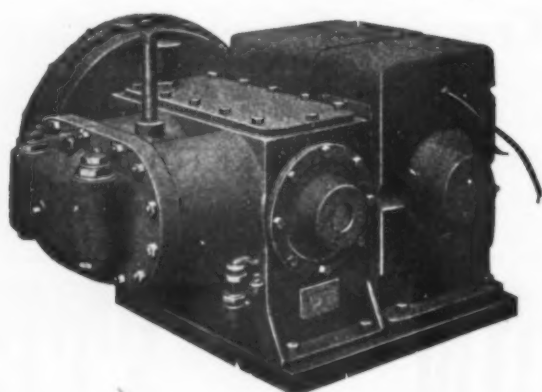
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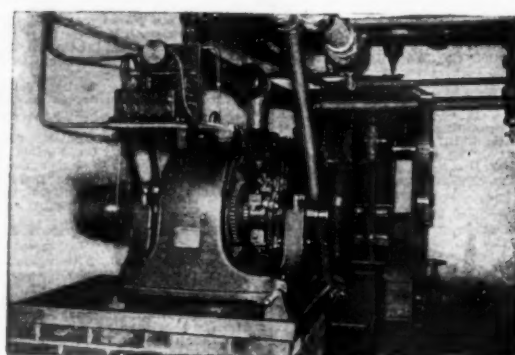
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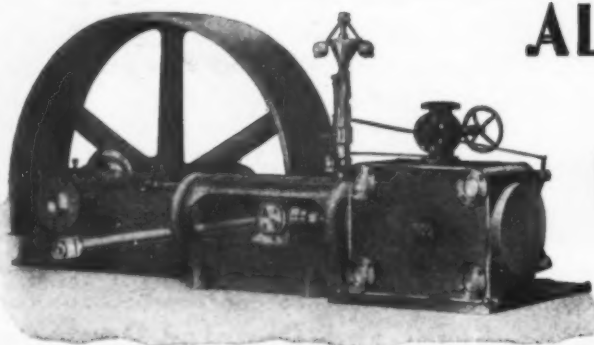
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Southern Iron & Equipment Co., Atlanta, Ga.
Watson, Benj., New York, N. Y.
Weir Frog Co., Cincinnati, O.
Western Supply & Mfg. Co., East St. Louis, Ill.
Wohlan-Magor Engine Works, New York, N. Y.
Zelicker, W. A., Supply Co., St. Louis, Mo.

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Alabama Frog & Switch Co., Anniston, Ala.
American Frog & Switch Co., Hamilton, O.
Elkhart Frog & Crossing Works, Elkhart, Ind.
Koppel, Arthur, New York City.
May & Spaulding, Atlanta, Ga.
Weir Frog Co., Cincinnati, O.
Wohlan-Magor Eng. Works, New York, N. Y.
Zelicker, W. A., Supply Co., St. Louis, Mo.

Rails. (Steel.)
Apex Equipment Co., New York, N. Y.
Bourne-Fuller Co., Cleveland, O.
Cary, George B., New York, N. Y.
Clark & Hines, Baltimore, Md.
Clearfield Steel & Iron Works, Pittsburg, Pa.
Davis, O. W., New York, N. Y.
Franklin, J. E., Savannah, Ga.
Hamel, Jno. J., & Co., Pittsburg, Pa.
Heister, M. C., & Co., Philadelphia, Pa.
Hittner, H. A., Sons, Philadelphia, Pa.
Koppel, Arthur, New York, N. Y.
Levis, Henry & Co., Philadelphia, Pa.
Maclear, J. H., & Co., Suffolk, Va.
Males Co., Cincinnati, O.
Maryland Rail Co., Cumberland Md.
Railway & Electric Equipment Co., Buffalo, N. Y.
Richardson & Co., Inc., New York, N. Y.
Robinson & Orr, Pittsburg, Pa.
Butter, C. H., Easton, Pa.
Schonstall Iron & Steel Co., Cumberland, Md.
Steel Rail Supply Co., The, New York, N. Y.
Springfellow & Webster, Richmond, Va.
Union Rail Co., Pittsburg, Pa.
Western Supply & Mfg. Co., East St. Louis, Ill.
Wohlan-Magor Eng. Works, New York, N. Y.
Zelicker, W. A., Supply Co., St. Louis, Mo.

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Morse Twist Drill & Machine Co., New Bedford, Mass.
Pratt & Whitney Co., Hartford, Conn.

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Globe Register Co., Cincinnati, O.

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Rand Drill Co., New York, N. Y.

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Acme Road Machinery Co., Frankfort, N. Y.

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Austin Mfg. Co., Chicago, Ill.
Cresson, Geo. V., Co., New York, N. Y.
Kent Mill Co., New York, N. Y.

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Chattanooga Roof & Fdry. Co., Chattanooga, Tenn.

Shag Machine & Tool Works, Buffalo, N. Y.
Merchant & Co., Inc., Philadelphia, Pa.
Robinson, J. M. Mfg. Co., Cincinnati, O.

Roofing Tin. (SEE TIN ROOFING.)

Roofing. (Felt, Tar, Asphalt, Paper, etc.)
American Roofing Co., Mobile, Ala.

Roofing. (Metal.)
American Tinplate Co., Pittsburg, Pa.
Armstrong Mfg. Co., The, Richmond, Va.
Asphalt Ready Roofing Co., New York, N. Y.
Barrett Mfg. Co., Philadelphia, Pa.
Buchanan-Ross Co., Philadelphia, Pa.
Bird, F. W., & Co., East Walpole, Mass.
Bird, J. A., & W., Co., Boston, Mass.
Carey, Philip, Mfg. Co., Lockland, O.
Charlotte Roof & Paving Co., Charlotte, N. C.
Eastern Granite Roofing Co., New York, N. Y.
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Maryland Lime & Cement Co., Balto., Md.
National Roofing & Supply Co., Louisville, Ky.
Scott & Co., Cincinnati, O.
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Stowell Mfg. Co., Jersey City, N. J.
Warren Chemical & Mfg. Co., New York, N. Y.
Wulf, W. C., & Co., Louisville, Ky.
Zelicker, W. A., Supply Co., St. Louis, Mo.

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Montross Metal Shingle Co., Camden, N. J.

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Penn Metal Ceiling & Roofing Co., Phila., Pa.

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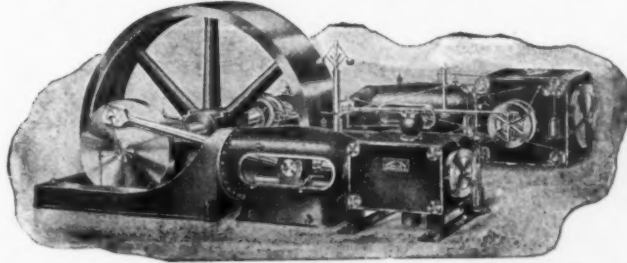
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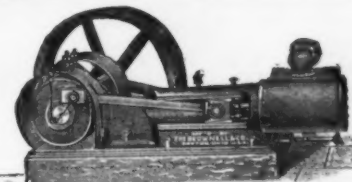
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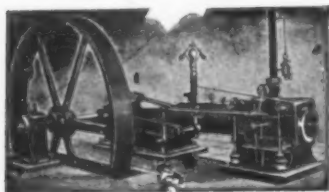
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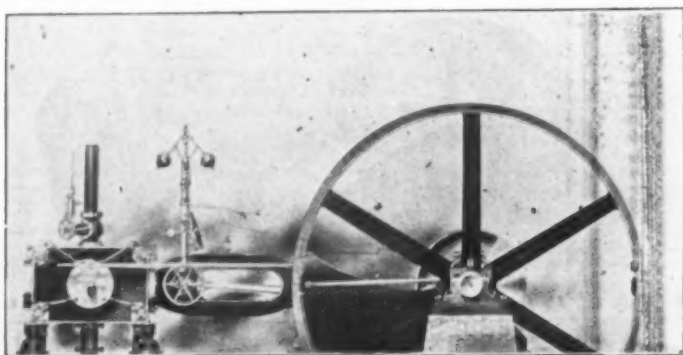
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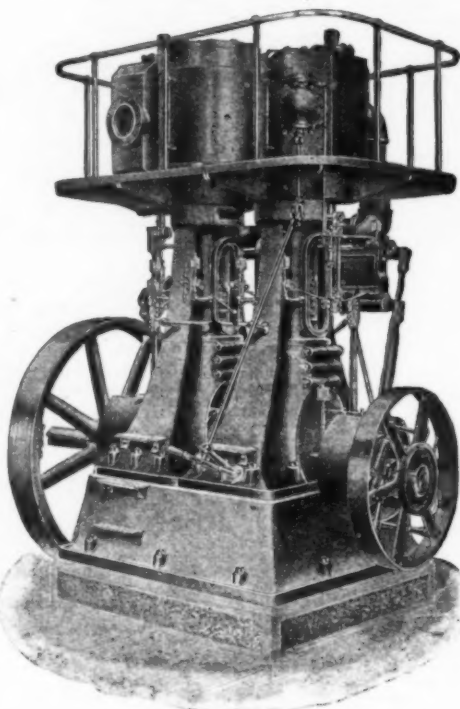
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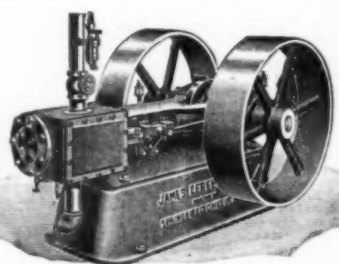
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Chesapeake Steamship Co., Baltimore, Md.
Merchants & Miners' Trans. Co., Baltimore, Md.

Steel. (Manufacturers of.)
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Bourne-Fuller Co., Cleveland, O.
Chesapeake Iron Works, Baltimore, Md.
Easton Foundry & Machine Co., Easton, Pa.
Eureka Supply Co., Chattanooga, Tenn.
General Supply & Construction Co., New York, N. Y.
Girard Boiler & Mfg. Co., Girard, O.
Globe Rolling Mill, Cincinnati, O.
Pascall Steel Co., Paterson, N. J.
Scaife, Wm. B., & Sons Co., Pittsburgh, Pa.
Schreiber, L., & Sons Co., The, Cincinnati, O.
Virginia Bridge & Iron Co., Roanoke, Va.

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Hartley Boiler Works, Montgomery, Ala.
Keeler Co., E. Williamsport, Pa.
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McGaffie & Kountz, Alliance, O.
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Valk & Murdoch Iron Works, Charleston, S. C.
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Vogt, Henry, Machine Co., Louisville, Ky.
Wood, E. D., & Co., Phila., Pa.

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Cypress Lumber Co., Apalachicola, Fla.
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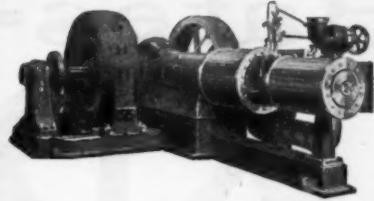
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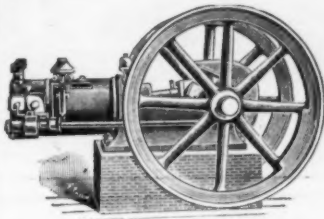
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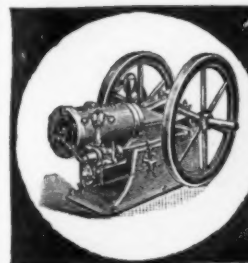
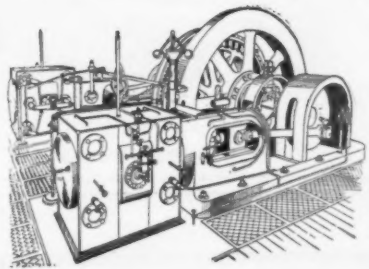
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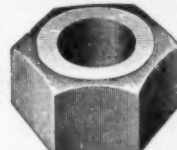
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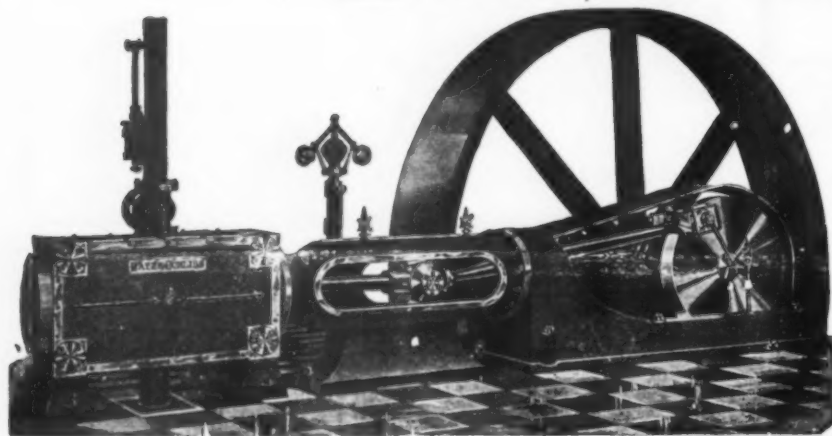
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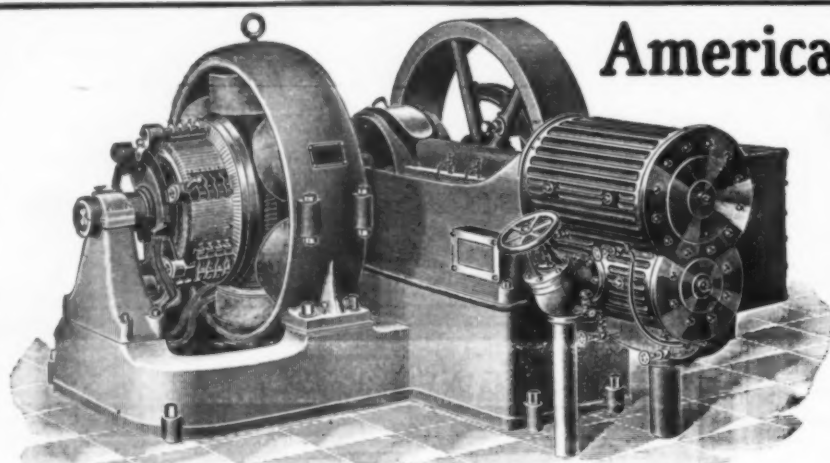
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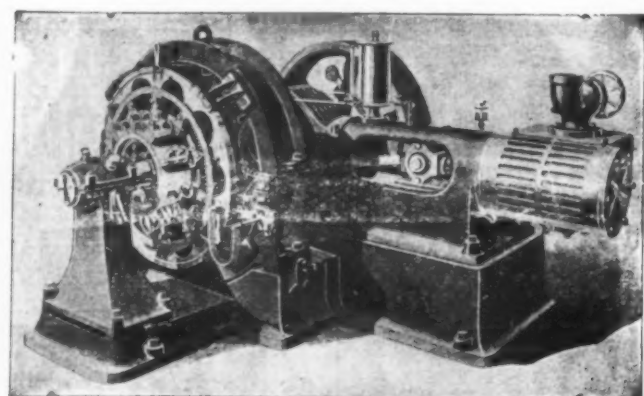
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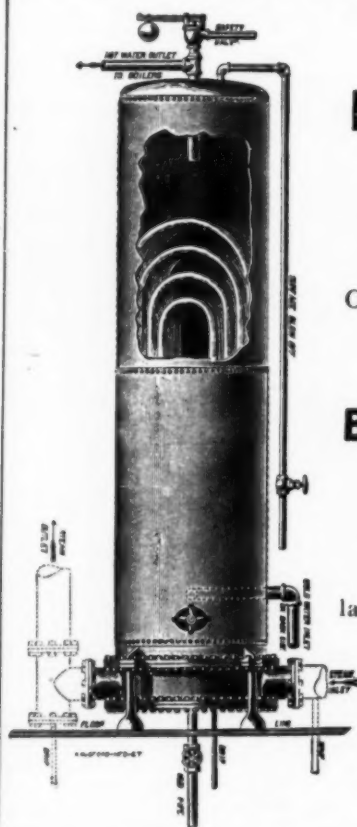
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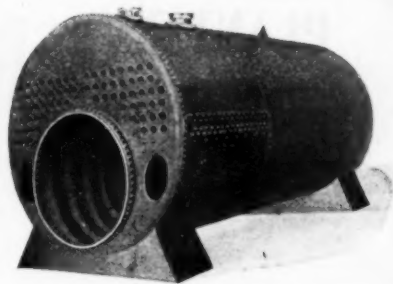
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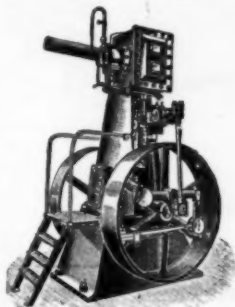


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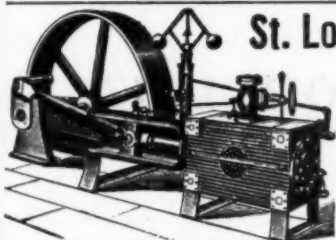
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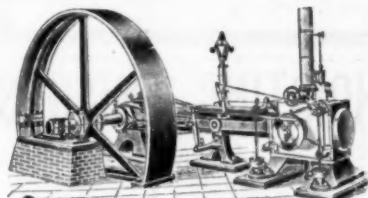
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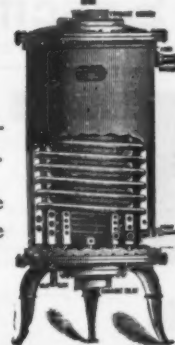
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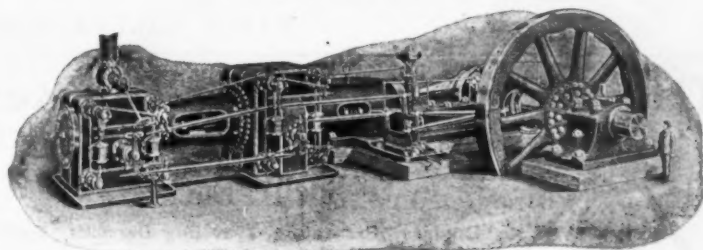
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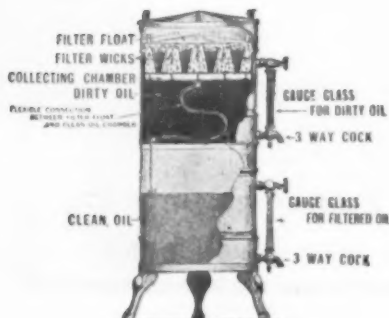
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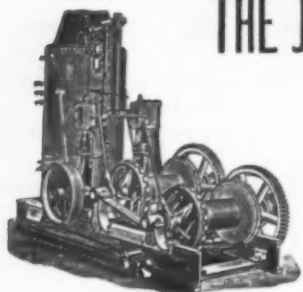
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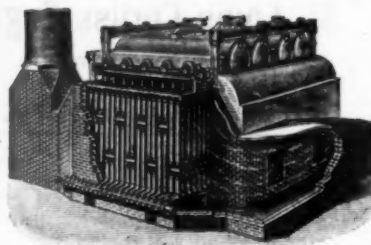
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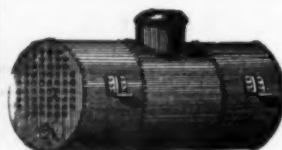
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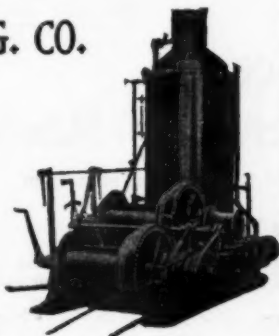
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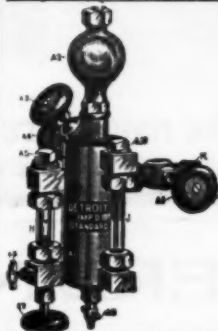
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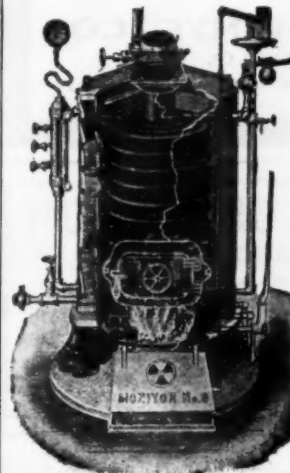
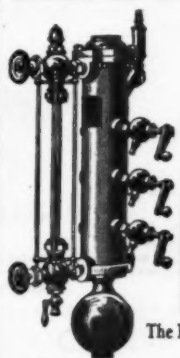
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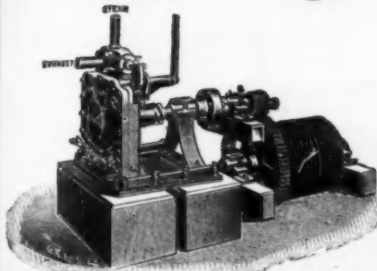
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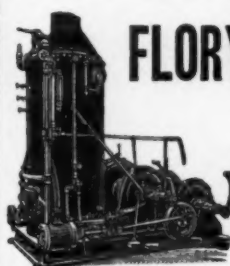
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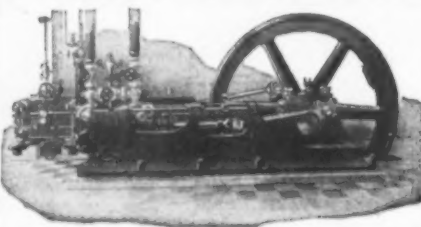
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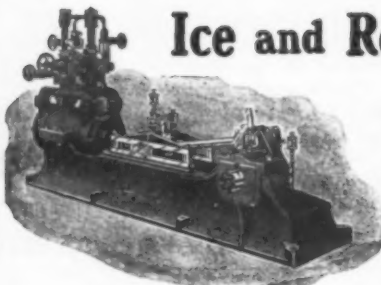
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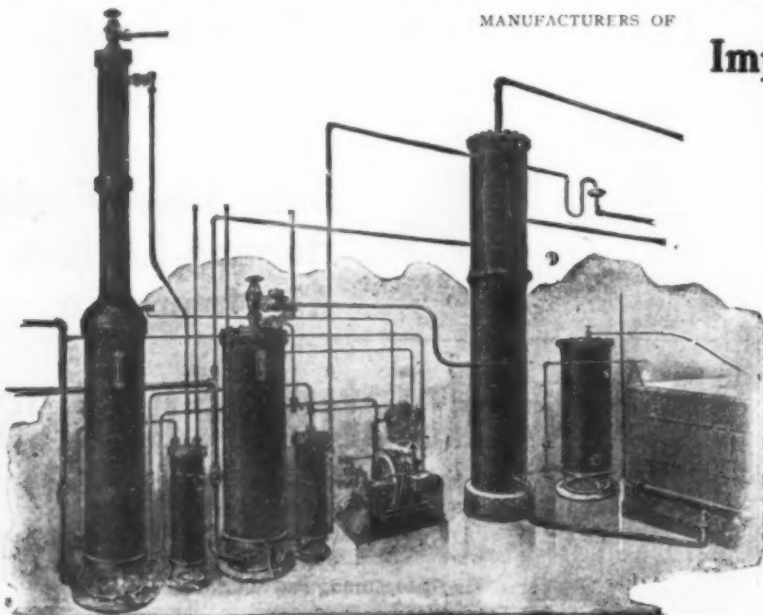
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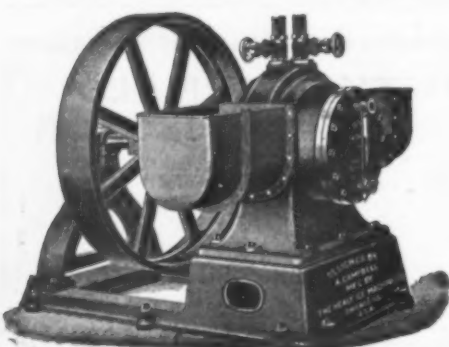
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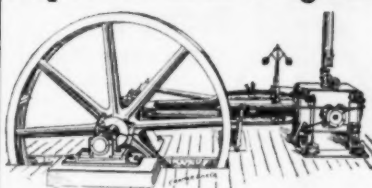
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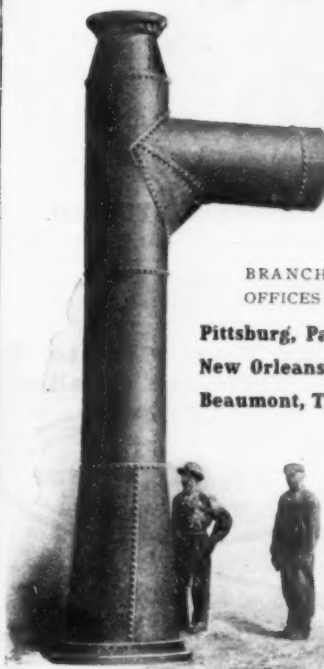
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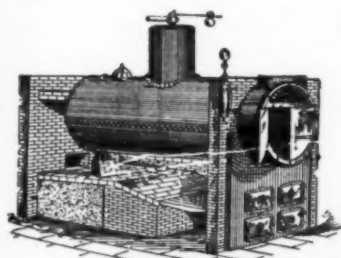
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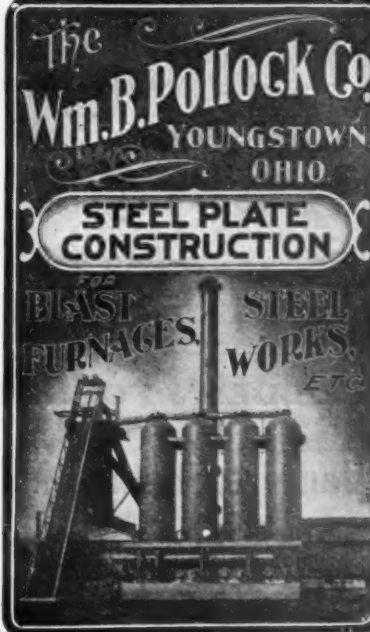
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Rubber Lined Cotton Mill and Fire Hose.

We manufacture only the highest grades.

**"Goods Bearing Our Brands Are Always
Guaranteed."**



**For Strength,
Traction
Power
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Durability**
It is without an equal.

The "Original Gandy" STITCHED COTTON DUCK BELTING.

Specially adapted to places where belts are exposed to water, heat, steam, oils, atmospheric changes, etc. Costs about one-half as much as the best leather belt on the market—has greater lasting qualities and will outwear any other make of belt. It is used with the greatest satisfaction as a main driver, conveyor or carrier. Give the Gandy Belt a trial and be convinced of its high merit. Beware of imitations. The real article stamped every ten feet,
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The rim of the Chase
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Our all steel pulley is
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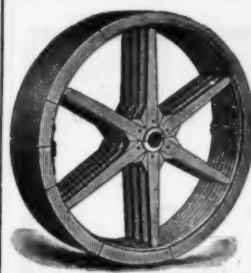
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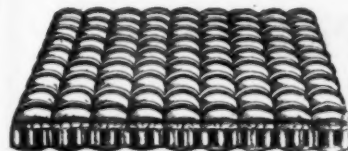


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Solid Gold-
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Guaranteed
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Attachment
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Shipped to re-
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All-Wrought Steel Split Pulley.

A HANDSOME DESIGN.
SUBSTANTIAL CONSTRUCTION.
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Cast Iron Whole Pulleys

Machine Moulded
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We can furnish from stock pulleys from 6 to 120
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Pulleys are furnished with straight or crowning
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The most complete assortment in the
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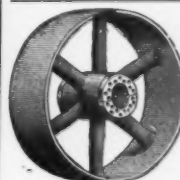
Up-to-date plant equipped in the most
modern manner with latest improved
machinery, operated by experienced me-
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The result is but natural: You get what
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Metalized Loose Pulley
Bushes require no oil or
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Critically examine our Barrows for good workmanship, material and style.

Jackson Manufacturing Co., - Harrisburg, Penna.

Munson's Improved Underrunner PORTABLE MILL.

For Grinding Corn, Corn and Cob, Oats, &c., &c.

Scientifically and Practically Constructed of the Best Material.

READ OUR CLAIMS:



Grinds rapidly.
Keeps cool, as spindles run in oil.
Simply built, economical and easily run.
The stones are carefully selected.
Perfect lubrication, requiring less power.
Parts are interchangeable.
Has given entire satisfaction to others.

We ship promptly and procure the lowest freight rate possible for customers.

MUNSON BROTHERS COMPANY,
Broadway, Utica, N. Y.

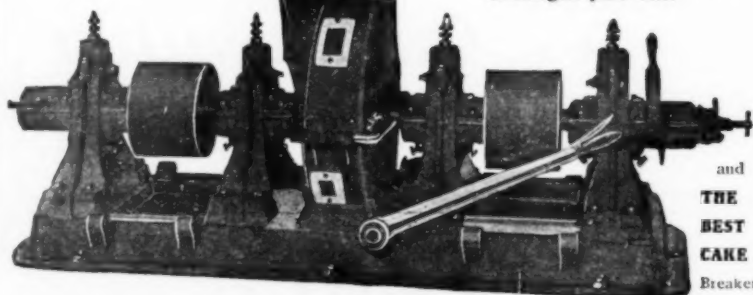
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Makes the Finest EXPORT MEAL.

The result of twenty years' practical working and careful study of the needs of the business.


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New Emery Mill for Phosphate, Rock and Similar Materials.
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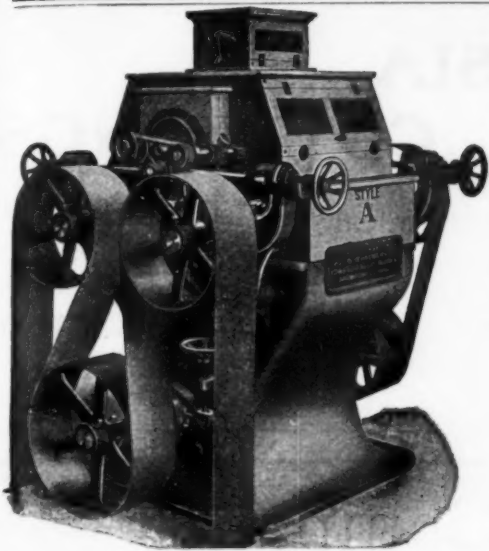
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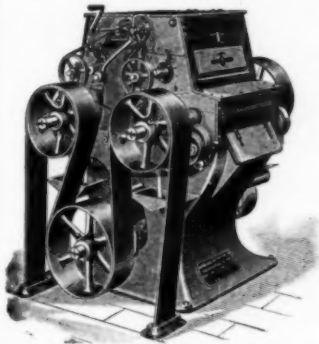
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Flour Mills, Corn and Cereal Mills.

Universal Bolters—Reliance Purifiers
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The kind that stands high in the estimation of millers everywhere. Its 51 years record is a good one. We build complete Flour, Corn and Cereal Mills of any desired capacity. We make Mill and Elevator Machinery and Supplies of all kinds, Portable Buhr Stone Mills, Roller, Corn and Feed Mills. Bolting Cloths made up to order.

HIGH-GRADE SHAFTING, POWER CONNECTIONS, GEARING and PRACTICAL ROPE DRIVES a Specialty.

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*Power Transmitting, Elevating, Conveying, Flour, Corn, Rye,
Buckwheat, Rice and Special Machinery, Turbine
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MONARCH ATTRITION GRINDING MILL.

Specially Adapted to
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LINSEED and COTTON
SEED CAKE.

Shipped Subject
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Not necessary to remove belts to open mill. Contains Quick Release, Movable Base, Chain Oil, Phosphor Bronze Bearings, Perfect Feed and our Patent Ball Bearing at end of Spindles.
GUARANTEED to do as much work, both as to Quantity and Quality, as any mill built, and the manner in which it is constructed makes it the BEST MILL offered to the trade. Write for prices.

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Builders of Flour, Meal and Feed Mills. P. O. Box 310. MUNCY, PENNA.

The COGSWELL MILL,

Over
2000
in operation.

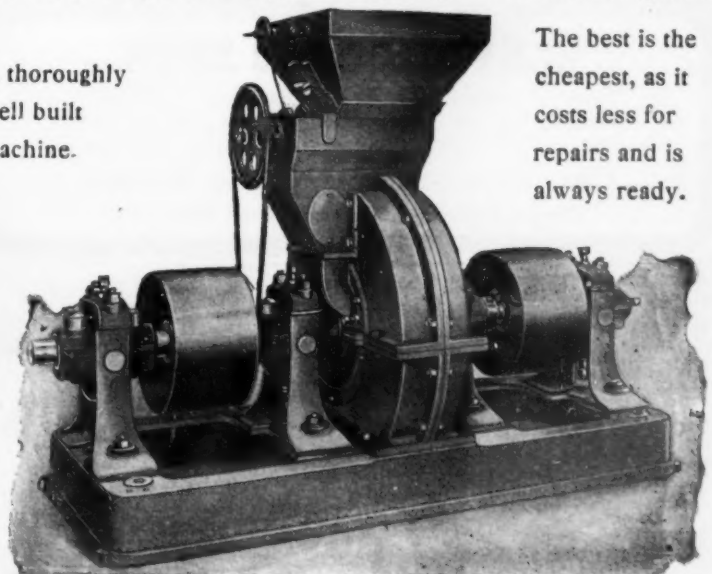
THE ORIGINAL AND STANDARD FOR GRINDING

Cotton Seed, Cotton Seed Hull, Oil Cake, Corn, Corn and Cob together, Corn and Oats together, Feed of all kinds, Resin, Spices, Alum, Borax, Coconut Shell, Drugs, Sugar, Starch Material (Carbon), etc., etc.

Capacity 3000 to 5000 pounds of feed meal (through No. 16 wire cloth) per hour.

A thoroughly
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machine.

The best is the
cheapest, as it
costs less for
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always ready.



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Successors to
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CAREY'S MAGNESIA STEAM PIPE AND BOILER COVERINGS

Are the Most Efficient, Durable and Economical.

The Philip Carey Manufacturing Co., } General Offices—**LOCKLAND, OHIO.**

FACTORIES—Lockland, O., Baldwinville, Mass., Plymouth Mfr., Pa.

BRANCHES—New York, Philadelphia, Boston, Pittsburg, Cleveland, Cincinnati, Charlotte, Atlanta.

See our Roofing Advertisement on Page 49.

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Manufacturers of all varieties of

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Black and Galvanized, Plain and Painted
Flat, Corrugated and "V" Crimped

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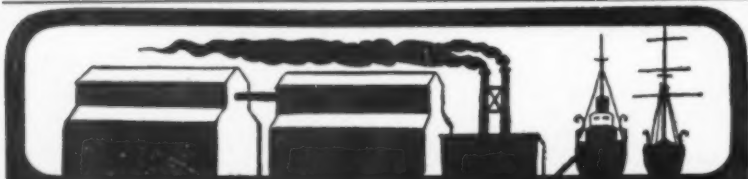
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Also the largest Distillers and Manufacturers of COAL-TAR AND COAL TAR PRODUCTS in the World

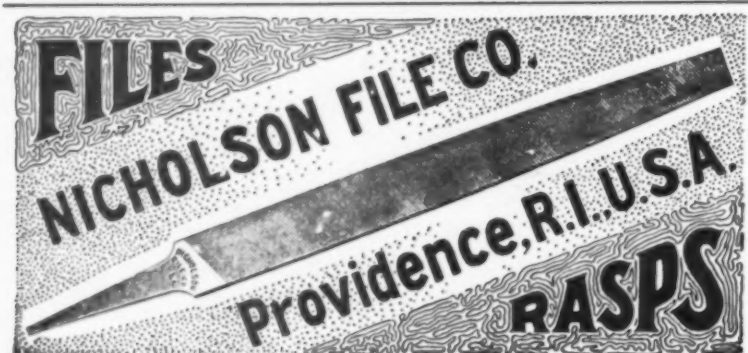


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in fact, all metallic surfaces, for their proper protection need a paint that is tough and durable; that resists heat, cold, moisture, fumes; that retains its color.

Use Superior Graphite Paint.

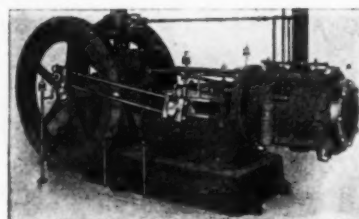
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FOR USE
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STEAM DRIVEN

EITHER
DRIVEN BY
STEAM OR BELT
ACCORDING
TO
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AND
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FOR
WELL PUMPING

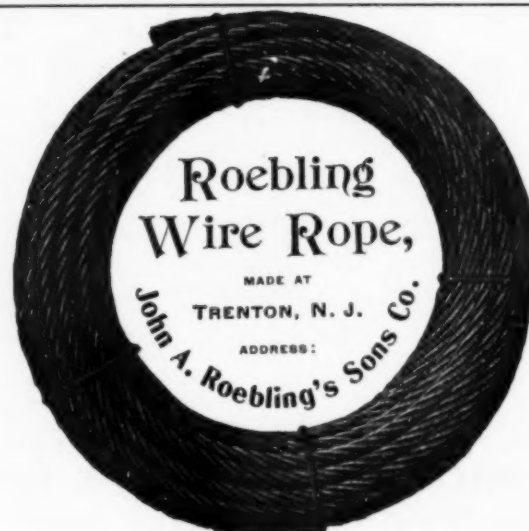
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Drill Co.

CLEVELAND, OHIO.

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MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XLIV. No. 22.
WEEKLY.

BALTIMORE, DECEMBER 17, 1903.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE
Manufacturers' Record Publishing Co.

RICHARD H. EDMONDS, President.
THOMAS P. GRASTY, Vice-President.
FRANK GOULD, Secretary-Treasurer.

OFFICE: MANUFACTURERS' RECORD BUILDING
BALTIMORE.

RICHARD H. EDMONDS,
Editor and General Manager.

THOMAS P. GRASTY,
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BALTIMORE, DECEMBER 17, 1903.

COPY FOR ADVERTISEMENTS.

Advertising copy (changes or new advertisements) should reach us Saturday Morning to insure insertion in the issue of the following week.

For the first issue in the month we should receive copy by Friday Morning of the week preceding.

THE DAILY BULLETIN of the Manufacturers' Record is published every business day in the year for the purpose of aiding manufacturers and business men generally who need to keep in daily touch with the new industrial, railroad and financial developments of the South and Southwest. Supplementing and in connection with the work of the Manufacturers' Record, it is an invaluable aid to all who are seeking business in the South and Southwest, the most wonderfully endowed section of America, where industrial, railroad and financial activity is creating an ever-widening market for machinery of all kinds, railroad equipment and building supplies, and for financial operations, etc., and where the knowledge and skill of the engineer and expert will find their largest field of operation.

The Daily Bulletin is intended simply to cover every day the work of the "Construction Department" of the Manufacturers' Record in reporting every new mining, manufacturing, railroad and financial enterprise organized in the South and Southwest, and it is not intended to be a general daily newspaper. To all who want to be advised every day of every new enterprise organized in that section it is invaluable.

AMERICANS NOT FOOLS.

Discredited in many other respects, Wall Street is still thought to be valuable as a Political Bogy for the provincials. It used to be monopolized in that way by what passed for the democracy of the country. Now it has been corralled for the exclusive use of the rapidly-diminishing support of Mr. Theodore Roosevelt. We are told that the terrible Money-bags of New York have given him their ultimatum, and by grapevine cable from London the horrible tale is intensified with a yarn about \$2,500,000 being raised to defeat for nomination to the Presidency the greatest product in Statesmanship of the twentieth century. And it all must, of course, be true. The discoverer this time seems to be Mr. Walter Wellman,

who now and then discovers the North Pole and such Things.

Imagine it!

NO NATIONAL ARBITRATION TRIBUNAL.

The country has been warned that Senator Cullom of Illinois is to introduce a bill providing for the appointment of a national arbitration tribunal. The author of the bill, who is of Chicago, describes it as the "crystallization, the capitalization and the scientific direction of public sentiment" in the settlement of disputes between capital and labor. The capitalization idea appears in the provision for the appointment of five members of the tribunal at an annual salary of \$8000, who are to serve with the Secretary of Commerce and Labor as a sixth member. This tribunal, according to a dispatch from Washington, is to have jurisdiction in a dispute upon the voluntary application of one or both parties to the contention. In case both parties agree to arbitrate and the question is decided only the bare decision is to be published. In case, however, one of the parties shall refuse to arbitrate, the tribunal is to make public that fact and also the complaint of the party proposing arbitration, or if, after having accepted arbitration, one of the parties shall refuse to abide by the decision, the tribunal is to publish the complaint, the answer and an abstract of the evidence. Public opinion will do the rest, in the opinion of the framer of the bill.

The result of the creation of such a tribunal may be readily crystallized. It will be worse than throwing into the gutter the \$40,000 a year provided for salaries and the \$400,000 a year which may be expected to be sought for traveling expenses and for hire of offices, secretary to the commission, private secretary to the individual arbitrators, stenographers and day laborers. Senator Cullom has been tinkering long enough at a similar tribunal created for a special purpose, to wit, the interstate commerce commission; he has doubtless studied carefully enough the wonderful evolutions of the arbitration board of the Civic Federation of New York, to say nothing of Mr. Roosevelt's own coal-strike commission, to be willing to introduce such a bill save by request, as he used to do with the bill for the pensioning of ex-slaves before Senator Hanna seized his laurels in that particular.

The kind of scientific direction of public sentiment that is needed, and needed most strenuously at this moment, is that which will arouse public sentiment to a demand that the Constitution, the acts of Congress and other laws of the country shall be observed by everybody, whether he be the President of the United States or the president of coal strikers. This country has plenty of law and a superfluity of commissions and tribunals. Most of the commissions should cease to exist. That would remove the excuse for eva-

sions of the law and for compromises as to principles, and would clear the field for an enforcement of the law by righteous judges.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 58 and 59.

NATIONAL BENEFITS OF MISSISSIPPI RIVER IMPROVEMENT.

Congressman Theodore E. Burton of Ohio, chairman of the committee on rivers and harbors of the House of Representatives, writing to the Manufacturers' Record with reference to the improvement of the Mississippi river, says:

I am much obliged to you for the copies of the Supplement to the Manufacturers' Record containing a full report of the proceedings of the Interstate Mississippi River Improvement and Levee Association Convention held at New Orleans on October 27 and 28. The completeness of the report is a notable triumph of journalistic enterprise.

Now, as regards the projects advocated at the convention: I am really pleased at the enthusiasm manifested at this and many other places in the country for levee improvements, irrigation and the building of inland waterways. But, under present conditions, I regard the demands as far and away in excess of any probable appropriations to be made by the general government. It is possible that we may enter upon an era when these expenditures will be made on a much larger scale than in the past, but I could not see the way clear to favor the taking over of the sole construction and maintenance of the levees by the general government. It would seem to me that the building of these levees confers a special benefit upon the immediate locality distinct from that obtained by the country at large, and at least one-half of the burden should be paid in that locality. It is, of course, a matter of general interest to increase the value of lands from \$3 to \$5 an acre to \$30 and \$50, but it would seem more just that those receiving this benefit should pay their reasonable share.

Rereading of the full report of the proceedings of the New Orleans convention by Mr. Burton will, it is hoped, correct the erroneous impression he seems to have about the purpose of the convention. The way for him to reach the point of broad view necessary under the circumstances is pointed out in a letter to the Manufacturers' Record from Mr. J. F. Cargill of the Pittsburgh Plate Glass Co., received in the same mail with Mr. Burton's letter. Mr. Cargill writes that his company has no direct interest in the matter, and adds:

We are quite sure that it is a question which relates to the general public good, and that it ought to be favored by the people as a whole. The coal interests here are much more largely interested than anybody else, and the great bulk of shipments have been, and are likely to continue to be, shipments of coal down stream.

When it is considered that hundreds of thousands of tons of this coal are water-borne upon secondary tributaries of the Mississippi, and that Pittsburgh is many, many hundreds of miles removed from the lands to be protected as a result of one part of the improvement of the Mississippi river, the misconception of Mr. Burton becomes ap-

parent. His position, indeed, for one who has been identified with appropriations for the improvement of rivers and harbors is rather remarkable. If there is anything which confers a special benefit upon the immediate locality distinct from that obtained by the country at large, it is the average appropriation for the improvement of a river or a harbor. If there is anything which would confer a special benefit upon the country at large, with or without reference to special localities, it is the consummation of the comprehensive plan of the improvement of the Mississippi under the auspices of the federal government as sketched and advocated by the gathering at New Orleans, including representatives of twenty-four States, 166 cities and many commercial bodies. The national and general character of the benefits was recognized by Mr. J. L. Vance of Ohio, president of the Ohio Valley Improvement Association, and when alluding to the great manufacturing center at the head of the Ohio river, turning out annually 100,000,000 tons of freight for the markets of the world, he said that the cheapest way to reach those markets is by water, and the products of the greatest manufacturing interests in the country must come down the Ohio to the Mississippi; it was recognized by Mr. Charles S. Fairchild, ex-Secretary of the Treasury, when he said that the great State of New York and the great city of New York are immensely dependent upon the prosperity of the Mississippi valley; by such governors as Durbin of Indiana, Vansant of Minnesota, Nash of Ohio, Peabody of Colorado, Pennypacker of Pennsylvania; by Senators Scott of West Virginia, Elkins of West Virginia, Fulton of Oregon, Taliaferro of Florida, Perkins of California, Quay of Pennsylvania, McCumber of North Dakota, and by a host of representatives in Congress and other progressive men.

Those who have been mentioned may hardly be charged with being interested in an increase in the value of lands from \$3 to \$30 an acre through the construction of levees as a part of the improvement of the Mississippi river. But they are certainly able to recognize that the reclamation of 30,000 square miles of the richest land capable of producing double the present cotton crop of the world, even though incidental in the improvement of the river, would certainly be for the general benefit of the country if current discussions of the importance of the cotton crop to the country are anything but vaporings. They know that the safeguarding of 20,000,000 acres of fertile soil is a mere incident, but that, being so momentous, emphasizes the broad scope of the contemplated improvement. They know that in that improvement is involved the progress and prosperity of 82 per cent. of the total population of the United States, occupying 70 per cent. of the total area of the country and yielding 88 per cent.

of the farm products, 75 per cent. of the manufactures, 98 per cent. of the coal, 98 per cent. of the iron ore and 93 per cent. of the petroleum of the country. In that area the greatest development of the country in agriculture, manufacturing, transportation and commerce is to be, and that will be hastened through prompt and proper care under the auspices of the federal government of the great inland highway, with its thousands of miles of tributaries. No other improvement for the general welfare can resemble that of the Mississippi river. That inland sea is unique. The ordinary harbor improvement might be postponed indefinitely with no ill save to the community close to the harbor. The improvement might be made under purely local auspices without any fear that the work could be undone by forces originating 2000 miles up the country. Trade retarded there by lack of artificial facilities would find a vent at other points possessing greater natural advantages. But there is no such alternative in the case of the Mississippi. The control of that river is as vital to Pittsburg as to New Orleans, to West Virginia as to Louisiana, to the cotton mills of New England as to the cotton-growers of Mississippi and Arkansas. Alone the people of the region subject to overflows originating in New York and Colorado cannot prevent the possibility of loss of thousands of lives and of millions of property that must effect the whole country directly and indirectly. It is for the whole country, therefore, to turn its back upon local interest and to act for the good of all.

BAD PRECEDENT IN LEGISLATION.

Representative Brownlow of Tennessee has introduced into Congress a revised bill to provide for a system of national, State and local co-operation in the permanent improvement of public highways. The bill was introduced originally in the Fifty-seventh Congress and has been widely discussed, in great measure favorably, there being little opposition anywhere to the fundamental proposition that the improved highways are necessary. There have been criticisms of details of the bill and no little opposition to its general principle on the ground that it may reinforce other movements for national co-operation in measures with which the government should not be permitted to intermeddle. The revised bill is not likely to escape objections on that score. Two of them are apparent in Sections 5 and 6. The one provides:

That if the governor of any State does not apply within thirty days after adjournment of the next legislature in that State after the passage of this act for national aid in building roads under this act, the proper officers having jurisdiction of the public highways in the civil subdivisions of said States may apply for the aid of the government as provided for in this bill.

The other, bearing upon the directorship of the bureau of public roads, provides:

That the director of said bureau, upon receipt of any such application, shall investigate and determine whether the highway or section thereof sought to be improved is of sufficient public importance to come within the purposes of this act, taking into account the use, location and value of such highways or section thereof for the purposes of common traffic and travel, and for the rural free delivery of mail by the United States government, and after such investigation shall certify his approval or disapproval of such application.

Not infrequently national legislation has been farther-reaching in its effects than its advocates could ever have meant and has affected matters never con-

templated in it. The judicial interpretation of an act has given it a significance never before suspected. The possibility of such unintentional use of an act is apparent in the two sections quoted. In the latter too much power, it would seem, is placed in the hands of one man, and in the former there is too great an advance toward an unnecessary centralization of power. To be sure, it may be claimed that this proposed grant of power and this invasion of the prerogative of the State executive are not unprecedented, but that is no excuse for creating another precedent which may be employed to bolster raids upon the treasury unjustified by facts or the necessities of the case.

THE NEGRO, THE UNION LEAGUE AND THE SOUTH.

One of the sincere though misguided supporters of the Southern Education Scheme, who is an extremely valuable asset of it, inasmuch as he happens to be Southern-born and idealistic, has recently made a pilgrimage through Georgia, Alabama and Louisiana, presumably in the nursing of interest in the Conference for Education in the South. His visit has resulted in descriptions of his personality and of his influence in church, State, education and philanthropy published in at least four Southern newspapers and in an editorial commendatory of the conference published in the city which has been led to believe that it is to be the host of that body next spring. But the cake of this enthusiast is likely to be all dough. The Union League of New York, from which the Southern Education Scheme cannot free itself, apparently, in spite of the eleventh-hour repentance of the member of the league who is the president of the conference, has broken out again.

It will be remembered that on the eve of the gathering at Richmond last April of the Conference for Education in the South the Union League of New York aroused the ire of some of its supporters by tabling certain resolutions born of the animus that forty years ago had raised in New York a negro regiment for service in the South in the baptism of the League. These resolutions bore upon the question of negro suffrage. At the time Mr. Ogden was credited with responsibility for the tabling of them. That was quite a fortuitous fact for Mr. Ogden. If the resolutions had not been tabled, hardly a handful of Southerners would have welcomed at Richmond the "educational excursionists" under the lead of him who, as described by one of his fellow-workers, has been deeply interested in negro education in the South ever since the old abolitionists have been dying off. It was bad enough for promoters of the Southern Education Scheme to be published as sharing with negroes the hospitality of the Unitarian Club of New York. That incident was still fresh in the mind of the reasoning South. Success of the Union League plan would have been the last straw for the camel. The situation for "philanthropy" was as acute as that of thirty years before, when the attempt to force, under federal auspices, white children of the South into schools with negroes was resisted by the long-headed "philanthropy" which knew that such radical action would discountenance them forever and utterly frustrate their plan for equalizing whites and negroes through "education." Similar apprehension is reflected in the comment of Mr. Robert C. Ogden, president of the Conference

for Education in the South, and president of the Southern Education Board, created as the executive organization of the conference, when, in opposition to the passage of the resolutions of the Union League, which happened last week, he said:

A large amount of good work is now being done by the best people, North and South, working in harmony for the political and intellectual advancement of the negro in the Southern States. If the race question is brought into national politics by the republican party the North will seriously injure its chances for further usefulness and will greatly retard at every point the present hopeful progress of the negro.

Mr. Ogden also contended that the action of the league would "discourage the growth of academic freedom in the South," his context indicating that by academic freedom he was referring to the endowment of a couple of Southern colleges sufficiently great to give power and license to instructors to refer to the South as having at last entered upon its probation as a part of modern society, and to compare the negro Booker with Robert E. Lee, to the disparagement of natives of the South, including even Abraham Lincoln. Mr. Ogden was prevented by an engagement to preside over a meeting addressed by Booker from attending the meeting of the Union League, which he did not influence this time. The league probably thought it unnecessary to humor him longer, and argued that, as the next meeting of the conference is so far distant, the incident of the resolutions would be forgotten before the "great moral show" starts again on its Southern round.

Be that as it may, the words of Mr. Robert C. Ogden are enough to lead the intelligence and patriotism of the South to thank God and take courage because the Union League has at last passed its resolutions.

AN UNFORTUNATE ADVERTISEMENT.

A curiosity in the way of advertisement is a pamphlet entitled "The Flood of 1903," published by the Chicago & Alton Railway, designed to illustrate and emphasize the successful efforts of the railway in keeping open its line during the month of June, when the most disastrous flood conditions in its history prevailed in its territory. The publication will interest persons who can especially appreciate the difficulties under which great transportation lines are sometimes compelled to operate. It is a splendid record of railway administration in an emergency, but it is questionable whether its ultimate effect can benefit the particular railroad. The seventy-odd illustrations of devastation and desolation in Illinois and Missouri wrought by the floods of last spring are hardly likely to attract men to the territory where such conditions are likely to exist at any time. Such an advertisement is akin to those which some Southern railroads used to publish, illustrated principally with pictures of swamps, alligators and negroes, and conveying to the uninformed mind a notion that such were the principal attractions of the South. It is not unlike the project of a Southern man who wished to make a complete collection of snakes a principal feature of a State exhibit in an exposition of the South. The evil possibilities of these ideas are obvious. The most effective use to which the Chicago & Alton's publication should be put would be as an argument for the comprehensive improvement of the Mississippi river and its tributaries; else it is an unfortunate advertisement.

COTTON'S PART IN EXPORTS.

During the eleven months of 1903 ended with November 5,946,662 bales of cotton were exported from this country, a decrease of 778,321 under the number of bales exported during the same period of 1898. A striking commentary upon the change in the cotton situation in six years is in the fact that the 6,724,983 bales exported in the eleven months of 1898 had a value of \$192,529,738, or less than \$29 per bale, while the 5,946,662 bales of 1903 had a value of \$305,947,184, or more than \$51 per bale. The exports of cotton in the eleven months of this year represent nearly 24 per cent. of the total value of all domestic exports (\$1,284,594,326) during that period.

THE INSPIRATION TO INDUSTRY.

In a letter bearing upon another topic Mr. A. W. McLean, president of the Bank of Lumberton, Lumberton, N. C., writes:

I desire to add just a word in commendation of the great work you are doing for the South. I might mention that several years ago your representative came here and placed a few copies of your Manufacturers' Record with a few of the business men of this town, and that within a short time arrangements were made to establish several industrial enterprises, and among them a large cotton mill, all of which have been successful. I can trace the industrial development which has begun here to the information and inspiration received from the Manufacturers' Record.

PROSPECTS OF PROSPERITY.

"That the financial depression in Wall street is in no sense a fair indication of the general condition of the country, and that the period of commercial depression which has accompanied it is likely to be short-lived" were brought out prominently at the annual meeting of the district managers of the Westinghouse Electric & Manufacturing Co.'s sales department, held recently at Pittsburg.

The annual meeting of the district sales managers of the company is an important event. It is held to enable the officers of the company to learn from their representatives in the field all the commercial features which are affecting their business or are likely to affect it for better or for worse during the ensuing year.

One special feature of the meetings is their report from each district manager as to whether the business of his office is likely to be larger or smaller during the ensuing year.

Each section of the country is considered seriously and in detail. Each manager knows for months beforehand that the company expects him to make such a forecast, and that the reports as a whole play an important part in shaping the company's policy for the immediate future.

Managers were present at the meeting from offices in Boston, New York, Philadelphia, Baltimore, Chicago, Pittsburg, Buffalo, Syracuse, Cincinnati, St. Louis, Minneapolis, Cleveland, Detroit, Atlanta, San Francisco, Los Angeles, Seattle, and the export department, and reports were received also from Denver and Dallas, Texas.

Out of the whole twenty, there was not a single report which indicated a falling off in the general volume or character of the coming year's business.

Two districts reported that their business for the coming year would probably be smaller than it was during the current year, but this prediction was based solely on the fact that during the current year each had made some exceptionally large sales of street-car equipments which they could hardly expect to duplicate in amount for several years. Outside of

such sales, these managers declared that their business would show a decided increase.

All the managers agreed in saying that the Wall-street depression would hold up a considerable number of trolley-car and industrial schemes by making it impossible to finance these, but each one was also emphatic in declaring that local conditions everywhere were so good as to promise business enough to fully offset this. The Eastern districts were most affected by the Wall-street situation. Notwithstanding this, Boston, New York, Philadelphia, Baltimore, Buffalo, Syracuse and the export-department men all declared that they would fully hold their own for the coming year, and the Texan and Colorado and Seattle districts were added to this list.

The most enthusiastic reports came from the South. The representatives of the company in the Southern districts declared that the South was never in better condition or more prosperous, and that their sales for the coming year would exceed those ever made before by large percentages.

Reports of like tenor were also received from the district managers in California and those of Chicago, Pittsburg, Minneapolis, Cleveland and Detroit.

A NOTABLE NEW HOTEL.

The opening of the Hotel Belvedere in Baltimore is a conspicuous monument to the development of the art of innkeeping in the South and to the broad, public-spirited enterprise of its projectors. During the last fifteen or twenty years there have been established in Baltimore and other Southern cities sundry new hotels, here and there being one more than ordinarily notable, but it has remained for this new hostelry that has just thrown wide its doors to the public to cause a veritable sensation among hotel men generally, as well as among the people who will be its patrons, for the Belvedere is a step far in advance of anything else in its section. From the time that the plans were laid for erecting the building the project has been pushed upon a generous scale, and now the completed building, costing nearly \$2,000,000, with its superb equipment and fine cuisine, more than justify expectations raised concerning it.

Situated upon the summit of an imposing eminence right in the heart of a fashionable residential section of Baltimore, the Belvedere—taking its name from the home of the Howards, which many years ago stood not far away—looms up grandly far above its surroundings and forming a conspicuous object of the landscape as seen from any point of view. At night its thousands of lights twinkle out from lofty apartments like stars upon the horizon. A more fitting location could not have been selected. The hotel is within easy distance of railroad stations, and its situation with respect to the business district of the city, places of amusement, etc., is of equally agreeable proximity. The outlook in every direction is pleasing. To the north Charles-street avenue stretches out into the country, the fields and woods of which are easily visible from the hotel windows. In the opposite direction to the south extends the city, and beyond the river, with the furnaces and chimneys of Sparrows Point low lying by the shore and enshrouded by mist in the distance.

But wise as were the projectors of the hotel in selecting a site for the splendid building that now stands universally admired as the result of their labors, they displayed even greater discretion in the adoption of plans for the structure, for its equipment and for its management.

Everything apparently has been done with the sole view of obtaining the very best results, and the hotel company merits the highest praise for what it has accomplished, for the Belvedere is in every respect the equal of any of the great hostelries of New York, which are made familiar to the country at large by frequent allusion as well as by description in the current news of the day.

Although the interior of the hotel has been furnished and decorated with the very best taste and in the most artistic manner, the designers of the building displayed extraordinary sense and judgment when they arranged that every room should be an outside one, thereby insuring an abundance of light and air. They have also provided two large apartments which will doubtless become conspicuous in the social life of the city. One of these is a ballroom and the other is a banquet hall. These are upon the upper floors of the hotel, where, if the weather is warm, the windows can be thrown open with the assurance that the summer breezes will be enjoyed.

The company which built the Belvedere is composed altogether of Baltimoreans, and the officers are as follows: President, Nelson Perin; vice-president, William P. Harvey; secretary, Roland B. Harvey; treasurer, Richard B. Sellman. Directors: Nelson Perin, William P. Harvey, Douglas H. Thomas, Sr., Harry A. Parr, Albert Marburg, Lloyd L. Jackson and George Blackstone. The architects were Douglas H. Thomas, Jr., of Baltimore and J. Harleston Parker of Boston. The builders were W. A. & A. E. Wells of Chicago and Philadelphia.

HIGH-SPEED ELECTRIC RAILWAYS.

The success which has attended the experiments upon the Marienfelde & Zossen Electric Railway in Germany will doubtless command considerable attention in the South and Southwest, where several plans are under way to build long electric railroads. To be sure, this notable German road is specially constructed, and is also provided with specially constructed equipment, but it has demonstrated with ease that the speed of 100 miles an hour, long desired by progressive railway men, can be attained in regular service, for during the recent tests, the results of which have been widely published, a speed of more than 131 miles an hour was attained, while it was found comparatively easy to run at the rate of 110 to 120 miles an hour.

A writer in a Berlin weekly, whose article has been translated for the Scientific American, describes the high speed on one of the test trips. When the car had reached a distance of one and one-quarter miles from the start it was moving at the rate of seventy-five miles an hour. Half a mile further on this speed had grown to nearly ninety-five miles an hour. Steadily the speed increased, and at Mahlow, four miles from the start, the car was running at the rate of 115 miles an hour. Between that point to within a mile of the finish the record speed was attained. To stop the car, which weighs ninety-three tons, it is necessary to shut off the current a mile from the terminus and put on the brakes.

Some comparison will give an idea of the tremendous velocity at which this car was moving. At a speed of over 130 miles an hour the car was advancing more than 190 feet per second, or more than one and one-half times the width of Pennsylvania avenue in Washington. At this high speed the car created a vacuum as it rushed along the line, pieces of the ballast as big as walnuts being sucked up and thrown about by the air currents as the train sped on. A bird that was flying in

the same direction as the car was struck and killed, while flies, bees and other insects were also overtaken, and at the end of the trip the front of the car was found covered with their dead bodies as if they had been crushed by a thumb.

Speed like this demonstrates that it is quite possible to establish regular schedules of a mile a minute between all points on such a railway, making due allowance for starts and stops. To be sure, sixty miles an hour seems small in comparison with this record run, but it must be remembered that to maintain a schedule of a mile a minute trains must attain at certain points in their journeys a much greater speed than that in order to compensate for the necessarily slow time in leaving and approaching terminals and other stations. The value of a high-speed electric railway should be very great upon the long distances of this country, particularly in the Southwest, but until electricity can be produced by the utilization of water-power to operate the generators it is to be doubted whether electric lines similar to that between Marienfelde and Zossen could be established in regions where there was not a density of traffic. Nevertheless, the advantages of high-speed electric traction on the new lines projected in Louisiana, Texas, the Indian Territory and Oklahoma would be so considerable that a study of the conditions surrounding such means of transportation merits the serious attention of the projectors of those railways.

TRUTH VS. FICTION.

A dispatch was recently sent out from Cincinnati to the effect that the Standard Oil Co. would not this year give to its employees Christmas turkeys as formerly. As a matter of fact, we believe that a Cincinnati director was in the habit of giving a turkey to the local employees, and since he is now dead, there is probably no one there who cares to take his place in this particular; but the facts regarding this are not material. On the basis of the Cincinnati dispatch, whether true or untrue, the Baltimore Sun, in its mistaken policy of arraying the masses against the classes, says:

"As the price of turkeys is high, the clerks and working-people will have to provide themselves with the Christmas bird or go without.

"It is true that turkeys are not the only things that increased in price. Coal oil, which is largely used by the poor and needy for lighting their homes these long winter evenings, has also become more expensive. Coal oil is something that the family must have, and the people cannot deny themselves in buying it like Mr. Rockefeller can deny himself the pleasure of giving. The price of oil as the winter advances and it becomes more and more a necessary of life in the humble home has gone up a cent or two at a time, and now Mr. Rockefeller not only denies himself the pleasure of giving turkeys, but does his part in making it more difficult for his employees, as well as millions of others, to buy for themselves. Thus he helps in saving men and women, as well as children, from the sin of excessive eating—a sin to which the poor are greatly addicted. This can be more readily done, as Mr. Rockefeller's company possesses all the oil wells and refineries which produce the supply, and the Congress of the United States has kindly fixed the laws so that the people must buy Mr. Rockefeller's oil or sit in darkness. Therefore when Mr. Rockefeller adds a cent to the price of a gallon of oil he adds so many million dollars a year to his income. But doubtless Mr. Rockefeller knows what he can afford. We are told that the liberal soul shall be made fat, and we have dis-

covered by experience that fatness is not monopolized entirely by the liberal souls."

Now as to the facts:

The Sun says "Mr. Rockefeller's company possesses all the oil wells and refineries." This is absolutely erroneous, as every intelligent man knows. There are many thousand oil wells in operation not owned by the Standard. That company buys in the open market a very large proportion of the oil which it refines. The country is practically facing an oil famine, the consumption exceeding the production, with a rapid decline in stocks. Under these conditions the price of crude oil, of which the Standard Company is a heavy buyer, has been steadily advancing in price for months until it is now higher than for many years. The higher price for cotton, by reason of its scarcity, is forcing a higher price for cotton goods, and likewise the growing scarcity of oil is forcing a higher price for crude oil, which is naturally reflected in refined oil. But it is useless to present facts to those who are blind to them.

Do You Want Information About Machinery?

The West Virginia Pulp & Paper Co. of Covington, Va., in a letter to the Manufacturers' Record, says:

"We are trying to find the address of a concern by the name of the Chain Belt Co., which manufactures conveyor chain, and we cannot find its name in any of the periodicals which we take here, nor do we find it in your November issue of the Manufacturers' Record. If you know of this address we will be glad to have you advise us."

This letter is a sample of many that are constantly received by the Manufacturers' Record. We invite requests of this kind for information about machinery or supplies of any kind from readers of the Manufacturers' Record, whether subscribers or not.

For the Upbuilding of the South.

[Bollivar County (Miss.) Democrat.]

One of the greatest factors in the upbuilding of the Southern States during the last decade has been the Manufacturers' Record, the great weekly industrial newspaper of the South. It has presented our advantages to the world more clearly, perhaps, than any other newspaper, and has been the means of bringing not only immigrants to make homes and produce agricultural wealth, but has brought foreign capitalists to build factories and develop mines, as well as encourage home capitalists to develop their country. One of its latest achievements is the publication in full of the proceedings of the Mississippi River Improvement and Levee Association Convention, held in New Orleans. Many prominent men have complimented the editors very highly.

"Fredericksburg and Fredericksburgers" is the title of a pamphlet devoted to a description and illustration of that historic old Virginia town. Fredericksburg is at the head of navigation on the Rappahannock river, and is now a successful, progressive place, but among the historic spots there is the house in which Washington's mother resided. An illustration of the old building is presented, and there is also a picture of Kenmore, the home of Betty Washington Lewis, and the old Marye mansion. Noted as Fredericksburg was during the Colonial and Revolutionary period, it gained further prominence in the war of forty years ago. All the half-tones in the book are good and fitting, which is most creditable to the town and its people.

VITAL FACTORS IN COTTON PRODUCTION.

The Manufacturers' Record, in continuance of its discussion of the cotton crop as presented last week, has submitted to the commissioners of agriculture and the presidents of all the agricultural colleges in the South, to several hundred leading cotton manufacturers, oil-mill men, commission merchants, bankers, growers and others the following inquiry:

Is there danger of a permanent decrease in cotton production in the South? If so, is it due:

- (1) To deterioration of seed by reason of the best seed being sold to oil mills, or
- (2) To a decline in the fertility of the soil by reason of bad cultivation under the tenantry system, or
- (3) To a lack of farm labor since the industrial development of the South has drawn many hands from the country to the cities, or are all three of these factors to be reckoned with?

We begin the publication of replies in this issue, and expect to continue for several weeks to present the views of the best-informed people of the South on these questions, so vital not only to this section, but to the whole world. The letters published today deal mainly with the conditions which prevail in the Carolinas and Georgia. Following these will come next week letters from the far South, in which the conditions may be presented as entirely different from those in the upper South. The letters published show a wide diversity of views, but the predominant note in all of them, with few exceptions, is that scarcity of farm labor will make it difficult for the South to increase its production of cotton. This scarcity is due in part to the tendency of the white tenant farmer to cotton-mill employment, most prominent in the older textile communities, where he and his family secure more profitable work than on the farm, and in part to the trend of the more active negro laborers away from agriculture to mining, railroad and kindred work. It is pointed out that this condition, which is becoming more pronounced every year, would make it difficult for the South to pick a larger crop, even if it could be raised. This condition presents an urgent need for immigration to the South to fill in the gap left by the increased employment of whites in the cotton mills and of negroes in mining and in railroad construction, and in the general trend of negroes away from farms to cities.

With but few exceptions it is claimed that there is no deterioration of seed, but that, on the contrary, farmers have been careful to use the best seed for planting, though a few writers insist very strongly that there is a deterioration in seed, claiming that the best seed are sold to the mills, and that the fertilizers used are not equal to the seed for the maintenance of the fertility of the soil, and that thus the consumption of seed by oil mills is a disadvantage in the long run. Comparatively few admit any deterioration in soil, and where this is reported it is claimed to be due to the thriftlessness of the negro tenants, who do not appreciate the importance of maintaining the fertility of the land. With scarcely an exception, however, the small crops of the last few years are claimed to be due not to any of these causes, but to abnormal weather conditions, which cut short the yield. While some think that the South has practically reached under present conditions its maximum output of cotton, there are other equally as well informed men who claim that there is scarcely any limit to the increase of the cotton crop of the South. This side of the case is presented by one of the most careful investigators of the South, who says that there has been no deterioration in the seed and none in the soil, and to this adds:

"We have made two short crops from causes that have in the past and will continue to recur from time to time. We may next year make 225 pounds of cotton per acre. The acreage will probably be 30,000,000. This will give us a crop of something like 13,500,000 bales. Manufacturers have taken many people from farms. Those left on farms work better, because of better conditions and rewards. The South is not yet seriously suffering from lack of farm labor, but has reached a point where the labor, formerly much idle, has been absorbed in profitable employment. It is a good time for quite a lot of thrifty immigrants to come South. The range of cotton production per acre seems to be about 150 pounds on the low side to 225 pounds on the high side. It seems to be ranging up and down now about as in all time past."

Outlook Bright and Promising.

Hon. S. L. Patterson, commissioner of agriculture and immigration, North Carolina department of agriculture, Raleigh, N. C.: I do not see in the near future any danger of a permanent decrease of the cotton production in the South. There must be a reversal of present conditions before such danger becomes imminent. Among these conditions I would note especially the higher prices that have obtained during the past few years, the increase of manufactories, and the efforts, thus far unsuccessful, of producing cotton in other countries. Referring to your specific questions—

1. While the production of cotton, like that of all crops, may be improved by the careful selection of seed, I am not aware and do not believe that the best seed is sold to the oil mills and inferior seed reserved for planting. The tendency seems to me to be rather in the other direction. In this connection I may say that this department is endeavoring to show by tests actually made the advantage of selecting good seed for all our crops.

2. I am of the opinion that indications

point to a greater sense of the necessity of conserving the fertility of the soil and the more intelligent efforts to do this. The testimony comes to us from various sources of the purpose of farmers to improve their soil by a more intelligent use of fertilizers and rotation of crops.

3. Undoubtedly the question of a sufficient supply of reliable farm labor is a serious one. The rapid development of various industrial enterprises has drawn largely upon the supply of farm labor. This can be partly compensated, however, by the increased use of labor-saving machinery. But the cotton crop is one requiring a certain amount of manual labor which cannot be supplied by machinery. A decided increase in wages may be necessary to hold the necessary labor, but the difficulty presents itself to the farmer of the risk of the next year's crop selling at prices very much lower than those of the preceding year. But for all this the cotton planters will manage in one way or another to meet the difficulties presented, and with favorable seasons will continue to produce as large crops in future as the last several crops have been. Notwith-

standing serious obstacles to be encountered, I regard the future outlook of agriculture in North Carolina bright and promising.

Deterioration of Seed and Its Cause.

Leroy Springs & Co., cotton buyers, Lancaster, S. C.: In answer to your first question, we think deterioration of seed has had a good deal to do with the decrease in production. We think if the farmers, as a whole, would adopt the policy of picking their best cotton and saving their seed from same, especially out of the October picking, that they would increase their yield at least 10 per cent. Some farmers do this, but the largest percentage do not, especially the small white farmer and the negro, who raise the largest part of the crop.

We think the crop has also fallen off on account of the seed being sold to oil mills, and not being put back on the land, as in former years, and also that the farmers do not rotate the land by sowing it in peas or grain every three years. This is done by some farmers, and they raise much larger crops and they are able to keep their land up to a better state of cultivation. Where land has been planted in cotton continuously for the last ten years it has deteriorated in production.

In reply to your third question, would say that farm labor is becoming a very important item, and we think will be one of the most important factors in cotton crop of the future. We find that the small white farmers are bringing their families to the cotton mills, and the negro labor is going to the railroads and elsewhere, where they can procure more than double the price of their labor; consequently the farmers will have to pay double the wages for labor they are paying now, which would require them to get higher prices for cotton.

I think the South could materially increase the production of cotton if it were more careful in selecting the seed. Almost all the improved varieties of cotton have been obtained by the careful selection of seed annually and each year bringing the plant to a higher state of cultivation thereby.

Lack of Farm Labor the Only Real Element.

T. K. Bruner, secretary North Carolina department of agriculture, Raleigh: To my mind the lack of farm labor will be the only real element in the diminution of production in the near future. That is a serious matter, not only to the production of cotton, but to all other farm products. The intelligent planter does not sacrifice his seed to the oil mills, or at least he only sells to the oil mills the surplus. He is too wise to do otherwise. There is very little decline in the fertility of cotton soils for the simple reason that in this State dependence is had almost entirely upon commercial fertilizers. Undoubtedly by a more careful and better cultivation of the soil less fertilizers would be needed to produce results. The greatest menace to the crop is the boll-weevil and its possible spread out of Texas. If that can be prevented, there is no reason why the normal production of the other Southern States should not be maintained, while the extension of the crop in Oklahoma and Indian Territory is progressing astonishingly.

Believes in Possibility of Great Increase.

Americus Oil Co., manufacturer of cottonseed products, Americus, Ga.: We do not think there is any danger of a permanent decrease in the cotton production in the South. We believe that the planters always select what they consider the best class of seed for planting the next crop. In the Southeast the farms are gradually being made better with each succeeding

year by the steadily-increasing consumption of commercial fertilizers, together with diversifying the crops and the use of home-raised fertilizers. We think the commercial fertilizers and diversified crops is doing more to improve the land in the Southeast than anything else. In regard to increasing the cotton production, we believe should an urgent demand for cotton require a 30,000,000-bale crop, or even a larger crop than that, it is possible for the South within a period of ten or fifteen years to produce that much, or possibly more cotton. We have the land, the climate and the seasons, which are a necessary basis; the labor and the fertilizers can easily be had when the world demands any considerable increase in the present crop. These are our views; they may be wrong, but we do not believe they are.

The Influence of the Lien Merchants.

W. A. Jones, Bishopville, S. C.: There has been no deterioration of cottonseed—absolutely none. On the other hand, there has been a steady improvement in seed as relates to fruitage of seed and yield of lint from seed. Our soil has no natural fertility; without the use of fertilizer it fails to yield a profit after the third year's cultivation. Consequently the negro cannot, in the nature of things, be depended upon to make a crop unaided by the white man's presence in the neighborhood either in charge of affairs or as an example through his own farm to the surrounding negro farmers. Large sections are left entirely in the care of negroes, and they have proven helpless, growing less efficient each passing year in spite of threats and abuse heaped upon them by the "lien merchants."

The "lien merchants" have come into possession of large tracts of land, and many of them have undertaken to employ an "overseer," as was the practice in antebellum days by extensive planters, and by using fertilizer liberally and paying low wages they manage to "come out" and occasionally clear a small per cent.

In the upper half of our State the whites—that is, those who do not own farms—have with great unanimity sought employment at the numerous cotton mills, and many negroes, imitating their example, have also left the farm in search of more lucrative employment, and it is my opinion that the curtailment there is likely to continue until cotton suffers another reverse and declines to, say, five and one-half cents a pound and the depression incident thereto drive them back to the farm for self-preservation. To make the proposition plain, I would say that more cotton would be produced at five cents per pound than at ten cents per pound because of the enforced return of absentees to the farm by depression. In the lower half of our State, where the negroes are more numerous, there is a strong inclination on the part of the whites to move to town for the twofold purpose of educational facilities and the safety of their families. Only by experience can one realize the tyranny of the situation.

The brightest negroes of this section are also shifting toward other work, and it can safely be said that the production of cotton is in this section sure against an increase, if not permanently on the decrease.

We sell some of our seed to obtain necessities and a little Christmas cheer, which is a distinct loss to the fertility of our soil. We exchange for cottonseed meal, and, in connection with phosphate and kainit, use it as a fertilizer. There is nothing to equal green cottonseed as fertilizer in staying qualities. Hence when we encounter extreme weather conditions the average half-fertilized field of

cotton is affected disastrously. If green cottonseed were used more generally, the extreme dry or wet weather would not affect it to so great an extent and an average crop would be harvested every year. Hence we have this practice to reckon with when a permanent increase in cotton production in this State is proposed.

Erroneous Education Demoralizing Labor.

Hon. William A. Courtenay, for long mayor of Charleston, and now president of the Courtenay Manufacturing Co., Newry P. O., S. C.: I have your letter of December 10 and its three inquiries, and reply to the same in sequence.

1. As to deterioration of seed. This is a farmer's question for specific reply. I have never known of any single instance where seed was selected, some for sale to oil mills of superior quality and the inferior seed left for planting.

2. The poverty of the South at the close of the war, caused by the ruthless campaigns in the cotton region to prove that "war was hell," the wasteful destruction of property for destruction sake, led to conditions direful in their consequences. Crops of all kinds were raised under the most severe disabilities. Lands were obliged to deteriorate for want of means to keep them up. The tenantry system was a forced alternative. The negro was the only resort, and without intelligence or means, cropping on store credits, the worst possible results were reached. Side by side on the same lands the difference in crops can be seen as between the owners of the soil and the negro tenants. A good deal of this resultant condition is still with us, and is seen in the statistics of the cotton crop in "acreage" and total bales between two and a-half and three acres to produce a bale of cotton.

3. Of course, the labor in the mills is drawn from the farms, and further, the coal and iron mines have absorbed their respective shares. The drift of rural population to cities is relatively small.

In a word, the South has ample areas of soil and inviting climate and ample farm labor to raise cotton enough to meet the world's advancing wants as they grow year after year. What is needed is an improved culture of the land and the suppression of political and educational mountebanks creating a mirage, and for sinister purposes of their own misleading the negroes with vain imaginings. If some of the chimerical educational schemes of Northern philanthropists now afoot in the South could be changed to learn the negroes to be better farmers, to raise more cotton, tobacco and rice to the acre, the negro would gradually elevate himself and his race, and be in time a potent influence for good in the American Union.

In conclusion, I cannot but express my regret that there is throughout the North so much "color blindness" about the real wants of our "brother in black," largely misled by some thoughtless Southerners, who, for political and pocket reasons, have first deceived themselves and are deceiving others. But they will soon have to realize the truth of President Lincoln's great utterance: "You can fool all the people some time, and some of the people all the time, but you can't fool all the people all the time."

Thinks There May Be Decline in Fertility of the Soil.

John W. Fries of F. & H. Fries, Winston-Salem, N. C.: I would gladly give you a detailed opinion on the points mentioned if I felt that I were at all competent to do so. But the fact is I am in no sense a farmer, and there is so little cotton grown in this neighborhood that I very seldom come into contact with cot-

ton planters. As a manufacturer I have not noticed any deterioration in the cotton staple, and I know of nothing to cause me to believe the hue and cry about deterioration of seed. It is reasonable to say that the soil in cotton sections has declined in fertility, because I believe it is a well-recognized fact that the strain on the ground is due to what goes into the formation of the seed, and since farmers sell their seed instead of putting it back into the ground, this is naturally at the expense of the land itself. I imagine that as a rule farmers do not replace this draft on the soil by using high-grade fertilizers, and when they use the cheaper grades, which are stimulants rather than fertilizers, it is more like feeding a man on whiskey instead of meat.

Believes Seed and Soil Have Deteriorated and That Labor Is Too Scarce to Pick Large Crop.

T. B. Fuller, president Golden Belt Manufacturing Co., Durham, N. C.: After carefully noting the three reasons which you suggest as a possible explanation of a decrease in cotton production, we have to say:

First—As to deterioration of seed, by reason of the best seed being sold to oil mills, we think this highly probable.

Second—As to a decline in fertility of the soil, by reason of bad cultivation under the tenantry system, we think this is so. Where the cultivation of cotton in the South is left to the tenants, the individuality of each tenant asserts itself in the line of the views of the particular individual, and results in a crop produced without the direction of a settled policy for the whole farm, thus leaving much land to be worked under a haphazard system where the extensive rather than the intensive idea prevails, and a constant repetition of the same crop has a disposition to exhaust the soil to such an extent that each year larger quantities of fertilizer are used in order to stimulate the ground sufficiently to insure a crop equal to former years.

Third—As to lack of farm labor, this is marked in many places, and we think is attributable, as you suggest, to the exodus of the rural population from the farms for the purpose of seeking more profitable employment in the cities. Indeed, we doubt seriously whether the South could harvest a large crop of cotton, even if same was planted and grown in a most favorable season. The great difficulty seems to be in getting the cotton picked, and we see no remedy for this unless the invention of some method for mechanically gathering the cotton can be arrived at. We have had some little personal experience in our observance of these conditions, and we have often noticed fields white with cotton late in the season that had been abandoned for want of labor sufficient to gather it.

Recent Short Crops Due to Bad Seasons.

Mallison Braided Cord Co., Athens, Ga.: We do not think that there is any danger of any permanent decrease in cotton production in the South. While there has been short crop for this year and last, this is due to seasons, and not, we think, to any permanent cause. The writer has been making cotton all his life, and now makes 300 to 400 bales, and the last two crops have had a very poor chance on account of seasons, which have been poor for the growth and maturing of the crop. We do not think that the seed matter, so far as selling to oil mills, has anything to do with the crop. Nor do I think the tenant system is any worse than it was several years since; in fact, it is better. As to labor, while a good many have gone to mills, more have grown up, and I have no more trouble getting labor now than ten

years ago. We do not think the cotton crop will be very materially shortened, and see no reason why we can't make in 1904 11,000,000 bales or more if seasons "hit."

Intensive Farming Expected to Be a Remedy.

P. P. Ezell, secretary and treasurer Putnam Oil & Fertilizer Co., Eatonton, Ga.: We see no reason for a permanent decrease in the cotton crop in this immediate section. True, the tide is towards diversified farming, but that means intensive culture. And you know that cotton has been made to produce four bales per acre in this State.

1st. The tendency is here towards seed improvement.

2d. In this section the trend now is to direct the tenant and show him the advantages of better culture and improvement of his soil, even rented though it might be. Hence we are not very pessimistic on that point.

3d. Lack of farm labor is quite a serious problem with us, and until the intensive system has gotten under better headway we believe that scarcity of labor will hold down the cotton crop to a normal figure, but not decrease it materially, if any. In fact, we look for an increase steadily in the cotton crop with favorable seasons and the checking of the boll-weevil. The shortage hereabouts this year was due principally to bad seasons, augmented by scarcity of farm labor at the critical point in the crop.

Believes South Can Produce Record Crop.

C. V. Truitt, president Unity Cotton Mills, La Grange, Ga.: We see no reason for material decrease in the production of cotton from the standpoint of seed deterioration. It is true that the cotton mills and public works in cities and towns have drawn considerably on farm labor; however, there will be large numbers returning to the farms to engage in cotton-raising next year, for two reasons, namely, the high price of cotton and the fear that the mills will close next summer, throwing them out of employment. It is the writer's opinion that with suitable seasons for the plant the South can yet produce a record cotton crop. We pin no faith in the opinions of some that the seed have deteriorated, as we consider the seed just as productive as they have been for the past twenty years.

No Decline in Seed or Soil, But Labor Growing Scarce.

F. B. Dancy, division manager Virginia-Carolina Chemical Co., Atlanta, Ga.

As a matter of fact, I am satisfied that all farmers reserve their best seed for planting purposes.

While Georgia lands have unquestionably largely declined in natural fertility, this is more than made up by a liberal use of fertilizers, and it is, I think, a fact that for the past five years the yield per acre has been greater in Georgia than ever before.

The labor question, as bearing on the planting, cultivation and harvesting of cotton, is growing more serious all the time. It looks to me like, under existing conditions, it sets a limit to production. This is true of the whole State of Georgia, in my opinion, and more particularly true of the middle and northern sections.

Fixes the South's Limit at About 11,000,000 Bales.

A. W. McLean, president the Bank of Lumberton, Lumberton, N. C.: I have read with interest the article on cotton production in last week's issue of the Manufacturers' Record. I have given the subject of cotton production a great deal of thought recently, and judging from general conditions, and especially the con-

ditions in this section of the cotton belt, I am firmly of the opinion that the limit of the production of cotton in the Southern States is about 11,000,000 bales under favorable conditions, and that there is danger of permanent decrease in the production, due almost entirely to lack of farm labor. In this immediate section during the past year the acreage was considerably increased at the time of planting, but the farmers were unable to properly cultivate the crop on account of lack of labor, and, consequently, the increase in acreage failed to increase the production. As I see it, there can be no increase in the supply of cotton produced in the South in proportion to the increase in consumption, which will necessarily take place as the population increases. I do not attach much importance to the effect upon the production caused by alleged deterioration of seed and decline in fertility of the soil.

Destruction of Forests Affect the Spring Weather.

O. C. Wiley, vice-president Standard Chemical & Oil Co., Troy, Ala.: We wish to say that we believe there is danger of permanent decrease in the cotton production of the South, due in a great extent to the cold, damp spring months. We think this is caused by the cutting away of the forests, which has been done at a rapid rate for the last five years. The forests heretofore have acted as breakwalls against the cold east winds and rains. The cotton being later, it does not mature until August, and the excessive heat during that month comes on as it is taking on its middle crop and causes an excessive shedding and dying of the plant. Heretofore our crop has matured in July, therefore was not so much affected by the August heat. There has been no deterioration of the seed on account of the best seed being sold to the oil mills. The farms adjacent to this place are owned and controlled by white men, who always select the best seed for planting. There has been no decline in the fertility of the soil, but, on the contrary, the soil has been greatly improved by the extensive use of fertilizers. There has been some lack of labor on the farms, caused by the negroes from the country going to the cities, towns, public works, turpentine orchards and large saw-mills south of here. The cotton blight, called by the farmers "black root," on the sandy lands this season has been very destructive to the cotton plant. We think this might be overcome to a great extent by planting immune seed or letting the land rest and not planting the cowpea, as has heretofore been the custom. In our opinion, planting the cowpea on cotton lands has much to do with the blight in the plant. The corn crop in Southeast Alabama is the best we have had for several years. Potato, sugar-cane and other small crops are good.

The South's Cotton Capacity Equal to the World's Requirements.

J. L. Hand, president Hand Trading Co., Pelham, Ga.: In answer to your general question we will say no, there is no danger of a permanent decrease in cotton production in the South. Public opinion on this subject has been largely misled by cotton operators. As a matter of fact, during the past two years the weather conditions have been unfavorable over a large part of the cotton belt, the year 1902 being in the main too dry, and the year 1903 having a very late spring and then excessive wet weather, and added to this, the appearance of the boll-weevil in Texas and caterpillars in the Southeastern States during the month of July. In addition to this, there has been very great activity in other lines of industry, espe-

cially in all lines of manufacturing, saw-milling and timber business, turpentine business, and, in fact, in all lines of small manufactures, which has drawn off a large amount of labor which has heretofore entered into the production of cotton. The natural increase in population will largely overcome this latter difficulty, and unfavorable seasons come every now and then, and must be expected. As a rule, increased open acreage follows the saw-mill and turpentine business, and under normal conditions there would be an increased production of cotton. It will not do to judge the productiveness of the South by one or two bad years, and one more good season will convince the world that the South will be able to come up to the requirements.

Pessimistic View of Seed, Soil and Labor Supply.

J. M. Baker, manager Selma Mill, Alabama Cotton Oil Co., Selma, Ala.: There is certainly great danger of a gradual decrease in the production of cotton in the South, due to several causes.

1. Poor grade of seed. Very little care is taken now to save planting seed, as the negroes, who are the largest planters, depend on oil mills for their planting seed. From the oil mills they get a general mixture of same. This fact is owing to high prices paid by the mills, which brings out nearly all the seed produced.

2. In very few instances is the soil renewed by fertilizer on the part of negro tenants. They have nothing to fertilize with, and no money with which to buy.

Then again, less cotton will be planted by the white farmers, owing to trouble in having it gathered. At this writing there are numbers of white farmers in this territory who have from ten to forty bales of cotton in the fields, and no inducement will get the negro to pick it. Most of them have a little ready money this year, and you can't get a negro to work when he has money. Especially will it be the case later on, when the weather gets bad. Have had beautiful weather up to this writing this season for gathering of the crops, and if the negroes won't pick cotton now, they certainly will not when the weather gets wet and cold. The fact remains that the matter of labor is going to prove the greatest trouble in production of cotton in the South, and, to my mind, the only thing to do is to introduce a different class of labor altogether.

No Deterioration in Seed or Soil and Improvement in Labor Conditions.

D. A. Tompkins, president the D. A. Tompkins Company, manufacturers, engineers and contractors, Charlotte, N. C.: Taking your propositions in the order in which they are, viz., I answer as follows:

1. No; not in the least.

2. No.

3. We have made two successive short crops from causes that have in the past and will continue to recur from time to time. We may next year make 225 pounds of lint per acre. The acreage will probably be 30,000,000. This would give us a crop of something like 13,500,000 bales.

Manufactures have taken many people from farms. Those left on farms work better, because of better conditions and rewards. The South is not yet seriously suffering from want of farm labor, but has reached a point where the labor formerly much idle has been absorbed in profitable employment. It is a good time for quite a lot of thrifty immigrants to come South.

The range of cotton production per acre seems to be about 150 pounds on low side to 225 pounds on high side. It seems to be ranging up and down now about as in all time past.

No Deterioration in Seed, But a Scarcity of Farm Labor.

Charles A. Gambrell, secretary Anderson Phosphate & Oil Co., owning and operating fifteen mills, Anderson, S. C.:

1. There is absolutely no deterioration of seed by reason of the best seed being sold to oil mills; all farmers use great care in selecting their best seed to save for planting the next crop.

2. In our experience, every year brings forth more scientific planting and cultivation, and the use of cotton fertilizers is being increased both in volume and in intelligent application, making the soil more fertile from year to year.

3. At this time farm labor is rather scarce, but not sufficiently so to retard the development of the cotton crop, and we see no reason to fear any danger from that source in the end, as the education of the people brings more work per capita and the enforcement of the vagrancy laws puts a lot of loafing negroes to work.

The Boll-Weevil an Important Factor.

Thos. J. Lillard, secretary-treasurer the Fidelity Manufacturing Co., Charlotte, N. C.: We do not look for much permanent decrease in cotton production voluntary, but the boll-weevil and scarcity of labor will make it so any way. The decline in fertility of soil will in many cases make it less productive, but we don't think will cut much figure. The manufacturing interests have called many thousands from the cotton and corn field to the mines and factories, so there is nothing but negro labor left in many sections, and they are quite unreliable in many cases. So we think the size of the cotton crop will in future depend on ability to get labor as well as on seasons and climatic conditions, and that great menace, the boll-weevil.

Does Not Look for Any Permanent Decrease.

R. T. Fewell, president and treasurer Arcade Cotton Mills, Rock Hill, S. C.: I do not think there is any danger of a permanent decrease in cotton production in the South.

1. There is no deterioration of seed for reason given.

2. There is, of course, decline on account of insufficient cultivation by negroes.

3. There is plenty of labor to make one-third more cotton than we have been making if the seasons are suitable. This is the principal cause, in my judgment, of any decrease of cotton production in this section.

The Rivalry of Agriculture and Manufacturing.

B. F. Strickland, president the Strickland Cotton Mills, Valdosta, Ga.: There is no danger of a permanent decrease in cotton production in this section. The best seed is not sold to oil mills. There is no decline in the fertility of the soil, as it is kept up by fertilizer and well cultivated, as a rule. Labor is a little scarce, owing to better wages being paid by industrial plants. Since the advance in cotton we know of a great many people leaving the manufacturing plants and going back to the farms. We think the seasons have more to do with the shorter crops than anything in this section.

No Indication of Any Permanent Decrease.

J. I. Westervelt, president and treasurer Brandon Mills, Greenville, S. C.: There is no reason why the South cannot raise as much and more cotton each succeeding year with the growth of the country, provided there is favorable weather. But with a late spring and early fall with frost, and drought at a most important time for the plant's putting on of fruit,

July and August, a short crop, as this year's is, cannot be considered as indicating a permanent decrease in cotton production in the South.

Bad Seasons Responsible for Short Crop.

The A. P. Brantley Co., Blackshear, Ga.: The present short crop of cotton is simply a matter of unfavorable seasons. You cannot grow a large crop of cotton when the seasons are not right for it.

Other Crops Pay Better.

James M. Graham, president the First National Bank, Gainesville, Fla.: Lack of labor and high price of labor affect the production of cotton. In our county, too, more can be made on vegetables than on cotton. Nothing but Sea Island cotton is raised in this county.

Lack of Farm Labor and Unfavorable Seasons.

T. R. Cox, manager Victor Cotton Oil Co., Yorkville, S. C.: We think the decrease in the production of cotton in this section is due to the lack of farm labor and unfavorable seasons we have had for the last five years.

Production Limited by Inability to Gather the Crop.

Gov. C. B. Aycock, Raleigh, N. C.: I do not think that there is a danger of a permanent decrease in cotton production in the South, but I do not believe there will be an increase in proportion to the world's demand. Production is limited by inability to gather the crop raised. Much more could be grown if it could be gathered.

THE ORISKANY ORE FIELD OF APPALACHIAN VIRGINIA.

By EDWARD S. FARROW, M. E.

[Written for the Manufacturers' Record.]

The production of pig-iron, like everything else, has its "ups and downs," its periods of activity and high prices, as well as its times of depression and low prices, but it still remains a fact that fewer failures and larger profits have been the rule in the industry than in any other one great pursuit. But as a fact it does not necessarily follow from this statement that iron can be made anywhere and everywhere at a profit. Briefly and concisely stated, the natural requisite conditions may be summed up in the following words, to wit:

1st. A favorable location as regards transportation facilities to the great markets of the country.

2d. An abundance of ore, coal and limestone so situated geographically that they can be mined cheap and delivered at low cost to a common center.

In this connection it must be remembered that the values of these raw materials do not consist alone in what they are, but equally so as to where they are. To obtain the best results both conditions must exist, and quantity, quality and location alike become combined factors, each of prime importance. Hence it follows as a self-evident fact that the "center of gravity" in the production of crude iron must adjust itself at the point where the facilities for distributing the product, as well as for obtaining the raw materials, are the best, and where the costs of assembling these latter at the furnace are the least. In this connection I want to direct attention to a district where good grades of foundry, forge and basic pig-iron can be profitably made in large quantities and over an extended period of time at a less cost than at the majority of existing plants, and whilst its varied resources are well known and understood, I will review the conclusions of a number of scientists, some of whose names are household words in the great iron world.

This district is situated in what is usually known as Appalachian Virginia. It has an average length of 100 miles and a mean width of thirty miles, and covers an area of over 2000 square miles. It is pierced from one end to the other by the Chesapeake & Ohio Railroad on its course from Staunton, Va., westward to the New River coal fields in Raleigh, Fayette and other counties in the eastern part of the State of West Virginia. The central portion of this great iron district is within 125 miles of the coking coals of the "New River," "Flat-Top" or "Pocahontas" and "Gauley River" districts. The unusual excellence of the coke made from the coals of each of these districts and its adaptation for furnace fuel in the produc-

tion of iron is too well known at this time to require comment.

The iron-ore district above referred to may be sweepingly subdivided as follows: Rich Patch on the east, Potts and Dunlaps Creeks on the west and the Craigs and John's Creek district on the south. Ores to supply all the furnaces located along the line of the Chesapeake & Ohio Railroad are mined in each one of these subdivisions. Many of these furnaces have been in continuous operation for twenty years, and the excellence of their products made from these ores have placed them as standard brands in the great markets of both East and West. These plants have not only made good iron, but they have done so at profit even in the years of panic and depression.

Geographically speaking, the ores of this district are found chiefly in two groups or horizons, viz: The Clinton and the Oriskany measures. They belong to the class known as brown hematites or hydrated oxides of iron, but their chemical combination varies so considerably that some of them are true limonites carrying 14.40 per cent. combined water, and others approach a red hematite with, theoretically, no combined water.

So far as the geology of this iron district is concerned, and the extent and character of the ores which the formation carry, I will submit a few extracts from a number of reports on this field made by some of the ablest scientists of the world and by some of the most experienced, practical and successful iron-ore experts that this country has ever produced. I regret that the magnitude of these papers prevent me from giving them in full, but copies will be furnished on application by the Engineering Company of America.

As far back as 1839 Dr. William B. Rogers, probably the ablest and most profound geologist that this country has ever produced, made a report on this section, and in his "Geology of Virginia," page 237, says: "The minute investigation of the geological position, as well as the extent of the ores in question, zealously prosecuted during the last year (1838) has brought to light the important fact that throughout a large portion of the middle district of the Appalachian zone, as well as in various parts of its two other subdivisions, the most abundant, continuous and valuable deposits of this material are to be found in formation VII (Oriskany), the coarse sandstone near its upper boundary being frequently replaced by the ore for great thickness and over a wide extent."

The Encyclopedia Britannica contains an article on "Virginia," which was pre-

pared by the late Major Hotchkiss of Staunton, Va. Describing some of the mineral resources of the State, he states that "Appalachian Virginia abounds in very remarkable beds of limonite iron ores found (often under large areas in more or less stratified condition) in the Hudson river (Roger's III), Clinton (Roger's V) and Oriskany (Roger's VII) formation of the Cambrian or Silurian age."

Again: In 1890 and 1891 Prof. Edward Orton, State geologist of Ohio, made two prolonged and thorough investigations of the western section of this territory, and made a written report of the results of each examination. After giving a detailed account of the numerous openings and natural outcrops on the ores of that locality and the facts in regard to the persistence, continuity and thickness of the veins, he declares that "in none of the many outcrops does it (the ore) show a thickness of less than twenty feet. In a part of the territory it exceeds thirty feet. This subdivision of the ore field, and especially the Upper Bennett bank, furnishes by far the finest showing of limonite ores that I have ever seen."

In his supplementary report made a year later, and after a second examination of the property, Professor Orton says: "The principal results of the re-examination of the field on my part are to be found in multiplied and therefore stronger proofs of the continuity of the ore seam than the first examination of the field afforded. The new discoveries are, however, in all instances in harmony with the facts previously reported. The exposures of the ore have been nearly doubled by the work of the last year, but these exposures are all situated, as they should be, to take their places in a persistent stratum."

A little later A. E. Leberman of Pennsylvania, a competent and cautious mining engineer of varied experience, examined this same field, and afterwards submitted a full report of the results and conclusions. After describing the openings that had been made on the ores and alluding also to their frequent natural outcrops, Mr. Leberman continues as follows: "Much of the ground must be yet considered unexplored. After the most casual examination no geologist could doubt for a moment that large quantities of rich ores lie hidden beneath the surface. The regularity of the surface indications of these ores is remarkable. In numerous cases they are so persistent as to suggest the possibilities of a continuous trench out of which the ore might be dug."

I will now confine myself to a presentation and discussion of the ore resources of a line of properties investigated by me and extending along the southern slopes of Pott's mountain and the chain of ridges parallel therewith for more than ten miles, and covering an area of about 30,000 acres. These lands embrace the cream of the ore-bearing zone. The Craig's Creek Valley branch of the Chesapeake & Ohio Railway, which runs from Eagle mountain to Newcastle, a distance of twenty-eight miles, parallels this group of properties for more than ten miles. The largest of the tracts of land lies to the north and east of the rest, and contains a fraction over 16,000 acres. This property was critically examined some years ago by Dr. Ruffner and Professor Campbell of Washington and Lee University. The very full report made by the latter of these gentlemen leaves nothing more to be desired from a geological standpoint, and his paper on the subject will always remain as a monument to his accuracy and professional skill.

Mr. William J. Maloney, the successful manager of the furnace at Goshen, Va.,

for many years made a careful inspection of this 16,000-acre tract in 1902. His field notes are now before me, and they show that he subdivided the boundary into four different parcels of land, and went carefully over each one of them. His full report is perhaps more practical and in many ways more satisfactory than any other one that has been made on this territory. He sums up his opinion regarding the ores on this one subdivision of the tract in the declaration that "cutting out the depressions and brakes in this part alone, there would be two and one-quarter miles of the ore to be worked out. This tract alone would, unless all indications fail, produce several millions of tons of ore, and even the uninitiated can follow this lead from one end of the property to the other by the outcropping and the sandstone."

The latest and one of the most comprehensive reports on the ores found on this group of properties, as well as in the contiguous territory, bears date of July 20, 1902, and was made by Major John T. Hamlett of Roanoke, Va. Owing to the fact that for many years past he had been actively and prominently identified with the development of the mineral resources of Southwest Virginia, and that his accurate and extensive knowledge of such subjects gave strong weight to his testimony concerning the same, this gentleman was selected and empowered by the officials of the Roanoke & Catawba Railroad Co. to make a full and exhaustive report on the ores and minerals tributary to their proposed routes for said road. It was intended to build this road from Roanoke, Va., to Newcastle, in Craig county, a distance of only twenty-eight miles, so as to connect these Oriskany ores directly with the several furnaces along the line of the Norfolk & Western system. Under the caption of that part of his report which deals with "The Oriskany Rocks and Their Contained Ores," Major Hamlett says: "But it is along the lower flanks of the several mountain chains previously alluded to and on the slopes of the intervening ridges that the most important features of the district are found. Here the formation is made up of coarse gray and brown sandstones, and everywhere throughout their locality in this section they carry with them the heaviest, most persistent and valuable stratum of brown iron ores known in the United States. Their outcrops, so frequently and extensively displayed along the base of every mountain and on the slopes of every intermediate ridge, point out the existence of a series of continuous beds of ore that are of great thickness, and which extend for many miles to the east, west and north of Newcastle."

Deeply impressed with so many evidences of their continuity, thickness and uniformity of quality, and convinced also from the operations at Glen Wilton, Lowmoor and Longdale, that these ores extended to a great depth, and could therefore be safely relied upon as a continuing and sustaining source of profitable freight. I have thought a careful examination of them very necessary. The brown hematite ores occurring in this Oriskany formation have been almost exclusively the sole basis of supply for all the furnaces located along the Chesapeake & Ohio road. Many of these plants have been in operation for a long period of time, and their records present certain facts well worthy of full consideration. They not only made iron at a profit during the years of deepest depression in that industry, but their output was of such uniform excellence for foundry, forge and basic purposes that they compelled recognition as a standard in all the great open markets of the North and

West, and this, too, to such an extent that their brands were sold at a premium over the metals of a similar grade that were made in other sections of the South.

As the history of some of these mines afford some very interesting, and, at the same time, highly instructive information, I will briefly state the facts regarding one of them. The records in the clerk's office of the County Court of Craig county show that William W. Anderson, trustee, sold and conveyed to F. C. Dinniny, Jr., of New York, by deed bearing date July 20, 1896, a certain tract of land situated in Craig and Botetourt counties, Virginia, and containing 2210 acres, in and for a consideration of \$40,000. Soon after its purchase Dinniny leased the same tract of land to the Alleghany Ore & Iron Co. at a very high royalty per ton of ore. This company at once began active mining operations, and prosecuted its work with so much energy and vigor that it took out over 500,000 tons of ore between that time and the first day of March, 1902, when they succeeded in purchasing the property from Dinniny at the price of \$600,000.

At the time of my recent visit to this property they were mining and shipping from 500 to 700 tons of ore per day from it. Adjoining the property on the west another mine was opened up some three years ago by the Lowmoor Company, and they are now shipping from 300 to 400 tons of ore a day from that plant. At each one of these mines the ores are extracted in the simplest and safest way, viz., by open-cut work. The ore in place is blasted down with dynamite, which shivers it into blocks small enough to be conveniently handled. At the mine of the Alleghany Ore & Iron Co. steam shovels are used in loading its ore into the cars, and it is mined, washed when necessary and delivered on board the Chesapeake & Ohio Railway cars at an average cost of sixty cents a ton. Notwithstanding the fact that the ore lead outcrops on this property for a distance exceeding two and one-half miles, it has only been stripped and mined at one point, and that does not cover a distance exceeding 700 or 800 yards on the strike of the vein.

The very conservative and capable superintendent now in charge estimates the amount of ore in sight at this one point at 1,000,000 tons, all of which he expects to take out by simple open-cut work. The estimate is entirely independent of the vast quantity of ore that will be ultimately mined from lower levels. As noted above, these two properties (Alleghany Ore & Iron Co. and Lowmoor Company), with only a limited space developed on the outcrop of the ores, now furnish between 800 and 1100 tons of ore freight each day to the railroad, and it is certain that this amount will be increased in the future. It is not the language of extravagance to state that all the indications favor a profitable extraction of not less than 10,000,000 tons of ore from these two properties.

There are great ledges of limestone in the immediate vicinity of these ores of such exceptional purity and value for fluxing purposes as to merit special notice. It is crystalline in structure, of a bluish-gray color, and has the following composition, as shown in an analysis made by Mr. Thurmer Haggard, chemist of the Virginia Iron, Coal & Coke Co.:

	Per cent.
Carbonate of lime.....	96.28
Carbonate of magnesia.....	Trace.
Oxide iron and alumina.....	.72
Silica.....	1.57
Phosphorus.....	.013
Organic matter.....	1.417

In consequence of the location of the ores, largely on the mountain sides, mining can everywhere be done at a minimum cost. The great abundance of water ren-

ders the washing of ores a cheap and convenient matter. The yield of metallic iron ranges from 40 per cent. to 60 per cent., with an abundance of iron ore yielding as much as 30 per cent. of manganese, being admirably adapted for the manufacture of spiegeleisen. Manganese ores, exposed on the foothills and in the ravines, where the water has cut into them, yield as high as 60 per cent. of metallic manganese. These ores contain very little phosphorus and are mostly free from any injurious matter. The following is an analysis from 195 samples of Craig iron ores taken at random:

	Per cent.
Metallic iron.....	53.35
Phosphorus.....	.06
Silicious matter.....	10.87
Phosphorus in 100 parts of iron.....	.15

MISSISSIPPI IMPROVEMENT.

How Interest in the Great Undertaking May Be Expanded.

Mr. R. L. Bennett, president of the First National Bank of Yazoo City, Miss., writes to the Manufacturers' Record as follows regarding the project of the improvement of the Mississippi river under national auspices:

"If commercial development is a blessing to a nation, ours is certainly a blessed nation. The evidence of growth was never so great in Dixie as at this moment. The children's fables of Jack and the Beanstalk, the Giant and His Seven-Leagued Boots, Aladdin and His Wonderful Lamp, are all suitable figures to illustrate the daily scenes witnessed in the South in every line of industrial growth. Figures that seemed fabulous last year look small when compared with those of this. This seems strange, and yet it should not. Consider the fabulous wealth accumulated by New England with natural advantages infinitely inferior to ours; consider the per capita wealth of Scotland and remember how her crags jut against the sky; think of England and remember that she has had to maintain the principle of free trade through ages in order that her people might obtain the staff of life, and one ought to be able to appreciate the possibilities of a country such as ours, where our millions of acres, spread out in broad expanse, yielding readily every crop grown in the temperate zone, and many whose natural habitat is the land of the tropics, while buried beneath the surface lies minerals of every kind. It is especially significant that what is here said of the South as a whole can be applied with especial emphasis to that section dominated by the Mississippi valley.

"If we had two nations or many nations in this country of ours it would be perhaps easy to appreciate the reasons which might produce rivalries such as to stand in the way of sectional development. It matters not, however, from what section the revenues of government come, they all find one depository, the treasury of the United States. What Southerner having a proper appreciation of the welfare of his own section would rise up today and say that it was a mistake of government when guarantees of the United States locked together with hooks of steel the Atlantic and the Pacific. Suppose, for instance, the transcontinental railroads had never reimbursed the treasury of the United States for one dollar advanced, would our nation be one whit poorer? The evidence of the value to a territory large enough for a half-dozen European States of a great levee system has been abundantly argued and proven. It would seem that the present movement is of sufficient magnitude, force and dignity to command the attention of the nation. The removal of the great question from party politics should give such an impetus as to absolutely guarantee such legislation as

to make the great end an assured fact within a year. I respectfully submit these lines in response to the request contained in your letter."

Hon. E. O. Stanard, president E. O. Stanard Milling Co. of St. Louis, Mo., who was the temporary president of the convention at New Orleans, writes to the Manufacturers' Record:

"I am in receipt of the Manufacturers' Record containing a full report of the proceedings of the Mississippi River Improvement and Levee Convention, held in New Orleans the latter part of October. I listened to most of these addresses with interest, and was observant of the deliberations of the convention, and I have perused with a great deal of satisfaction the report which you set me, and I am sure that this report will be read with a great deal of interest by the people of the country, and that they will get valuable information relative to the matters discussed at this convention, and everybody ought to be thankful to you for the interest which you have manifested in these deliberations."

B. F. Howard of Gulfport, Miss., writes as follows:

"After a careful reading of the convention number of the Manufacturers' Record, I want to say that next to doing the work for which the convention was called, the thing to do would be to send a copy of the convention number to every man who has mind enough to grasp the ideas presented by those who took part in the convention, from the chairman's opening address to the closing speech. They will be able to see by reading that it was a great convention, in that it was composed of great men, all agreed upon a great endeavor to accomplish one great purpose. How congressmen from any of the States embraced in the Mississippi drainage basin can refuse to support the demands of the convention is something the man who leads will be unable to understand. This is especially the case with congressmen from Ohio and Indiana, in which States the laws on drainage permit swamp lands to be drained upon petition. They send out viewers, who decide as to the utility of the project and the benefits to be derived by each land-owner whose land drains into the proposed drain. Some are assessed for direct benefits and others for indirect benefits, but all are classed as being benefited by having an outlet for the water on the land. These assessments sometimes run as high as \$5 or \$6 an acre for land getting the most benefit, and all assessments are made a lien on the land. If the owner cannot or will not pay the assessment, the land is sold for the amount and costs. While these laws in many cases work a hardship on the owners, they have made those two States what they are today in agricultural wealth.

"Following up the principles of these laws that the man at the outlet must have help in caring for the water that comes down on him, we find an outlet at every change of the stream, and finally reach the ultimate outlet. Here conditions change. In place of protection by deepening and widening the channel is found the building of embankments to protect not only the growing crops, but human life. If those laws are just, and bring about such conditions for those two States, and if, at the same time, they have contributed their part toward the evils in another part of the country where embankments are asked for, the men in that part should have help, and this help can come from no place more equitably than from that from which it is asked. Aside from the fact that the whole country will be benefited by the proposed Mississippi river improvement, it is a simple matter of jus-

tice that those who helped to make flood conditions should help to care for the results. This theory being held as proper in the two States mentioned, should be applicable not only through the States, but until the end is reached.

"Congress has appointed its viewers, the Mississippi River Commission. These have reported on the utility of the improvement and have started the benefits that will follow the completion of the work. Having thus put their hand to the plow, they have no place to stop until the work has been completed and life and property has been made safe. There will be some small men, not large enough to carry about with them a broad, liberal mind, who no doubt will try to hide behind the Constitution. But their constituents will be so well pleased for the plan to be carried over their opposition that they will let them remain at home at the next election and choose men who really represent them. Men of that class are like men who do not want to ride as fast as the train runs. So they walk. And not having any business, they have no use for fast freights, and are constantly complaining about the railroads killing stock. Let these take their place in the column where they belong, while the great majority of the people, big-hearted and broad-minded, find room in the Constitution for Congress to do a good thing when it can be induced to do so, and in their happiness they will sweep right on, and, like the great old river we are talking about, will sweep away all puny obstacles, leaving only the substantial, and being well satisfied with the constitutionality of the thing when they are satisfied with the thing itself.

"In a campaign of education for this river improvement, I think the Mississippi River and the Ohio River Improvement Associations could use half a million copies of the Manufacturers' Record convention number, and then not place a copy in every place where it would do good. It explains facts not generally known, even in districts where such knowledge would be of benefit."

A. F. Thomasson, Hattiesburg, Miss., president Four States Immigration League, writes: "I am pleased to acknowledge receipt of the copy of your Levee Convention Supplement. I heartily congratulate you on the work and concise information contained therein, and am glad to know that it has been so largely circulated. Your interest in the matter and your prominence and work will no doubt redound to the interest of the South and to your great credit."

IRON SITUATION CLEARING.

Cheerfulness in the Trade in the Birmingham District.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., December 14.

The market for iron the past week was again active, and the demand showed but little, if any, abatement. It came from all sections of the buying world. The advance of fifty cents per ton, making the minimum price of No. 2 foundry \$9.50, was easily sustained, and the majority of the transactions after the middle of the week were on that basis. The first half of the week some of the interests sold on the basis of \$9.25 for No. 2 foundry, but they were in the minority, and when they advanced the price the buyers took it just as readily as at the lower price. There was a constant procession of orders for lots running from 50 to 2000 and 3000 tons and on up to 5000 tons, and even above that amount. And it was noted that there was a right smart sprinkling among the buyers of those who had been buyers at the lower prices that have prevailed of late. The only inference to be

drawn from this fact was that the trade had come to the conclusion that prices were regarded as conservative.

The demand was not confined to any particular section, but embraced them all, and there was a manifest inclination to take on good lots for a more extended delivery. But this inclination was met with a demand for advanced values, and the disinclination of sellers to name prices beyond the first quarter of 1904 acted as a dampener on long-delivery trades. If this feature of the trade had been encouraged, the sales recorded would have been quite large. The leading interest the latter part of the week restricted their transactions to the first of February, while some extended them to the 15th, and a few were willing to include the whole of the first quarter. Beyond this period nothing could be learned of any transactions. For deliveries beyond February an advance over spot price is asked, and some sales were made on the basis of \$9.75 for No. 2 foundry, delivery running through February. There are a few interests whose order-books are so well filled for delivery up to February 1 that they are pricing now on the basis of \$9.75 for No. 2 foundry on new business, and they are getting that price. But, as a rule, this does not prevail for large lots. The demand has been for all the grades and such as prevails only when the demand is general. An offer of \$10 for No. 2 foundry, delivery in second quarter of 1904, was declined, and the buyer was told that the seller would reluctantly accept the order on a basis of \$10.50 for No. 2 foundry. There have been some sales for delivery, half in March and half in April, on the basis of \$9 for No. 3 foundry, but they were not of any magnitude. There are a limited number of sellers, situated on Easy street, who are practically out of the market and waiting for a \$10 basis for No. 2 foundry to be attained, but they are very limited in number as well as in quantity of product.

Some iron that has been purchased has gone into warrant yards to await an advance in the market, and some has gone there from first hands to be held for more favorable prices. On the whole, there has been a very perceptible clearing of the iron situation, and a bright cheerfulness has succeeded the gloomy feeling that possessed the trade but a short time back.

There are no features connected with the export trade to report. The domestic trade has been of such a character that it has been overshadowed, and efforts to vitalize it have largely decreased. Prices that were current a short time ago would not be seriously considered now.

The weather has been on the side of the furnace interests, and everything has worked in their favor for the assembling of material and the turning out of iron, and they are taking advantage of existing conditions and making hay while the sun shines.

Cars have been in much better supply than was anticipated, and while there is some complaint, the majority of iron shippers are getting all the cars that they can load. The coal interests are yet complaining, and assert that the shortage with them is working to their serious disadvantage. But the demand for coal has been urgent and was no less a surprise to the operators than to the railroads.

Among the incorporations filed the past week was that of the Eclipse Rolling Mill Co., capitalized at \$50,000. The officers are: W. H. Graham, president; J. J. Writh, secretary and treasurer, and T. J. Rowley, general manager.

The Bessemer Machine & Foundry Co. captured the contract lately for furnishing the castings for the new depot to be erected at Atlanta, and it is current report

that in competition with Pittsburg interests, as well as with other interests in the West, it has succeeded in obtaining contracts in Western districts. No better illustration could be given of the advantage derived from being located right in the field of production. As evidence of the growth of business and of the flourishing condition of our financial interests it is announced that the First National Bank of this city has given notice that it will increase its capital from \$300,000 to \$500,000. The Traders' National Bank is completing arrangements to open for business some time this month.

J. B. McClary, manager of the Birmingham Electric Railway, has resigned from his position to enter business on his own account, and will be succeeded by Geo. H. Harris. The system is being extended, and no other city in the country will be more gridironed by rail facilities than is Birmingham.

In last week's letter the fact that miners' wages had fallen to the minimum price for mining coal was omitted. An examination of the order-books showed that the average price obtained for iron was less than \$9. Wages can go no lower for mining coal. As evidence of conditions prevailing among the furnace interests the report of the Sloss-Sheffield Iron & Steel Co. for the quarter ending November 30 shows as follows, viz.:

September, profit from operations	\$17,955 86
October, profit from operations	115,914 36
November, profit from operations (estimated)	86,834 26
	\$319,804 48
Deductions for depreciations and charges to extraordinary repair and renewal fund:	
For September	\$13,294 95
For October	15,280 75
For November (estimated)	15,513 64
	44,189 34
Three months' interest on bonds and three taxes	\$275,615 14
	60,000 00
	\$215,615 14
Actual surplus carried over September 1, 1903	2,224,497 39
	\$2,440,112 53
Quarterly dividend on preferred stock	114,000 00
Total surplus to December 1, 1903	\$2,326,112 53
Surplus to December 1, 1902	\$1,200,645 26

Firmer Tone in Iron.

[Special Dispatch to Manufacturers' Record.] Birmingham, Ala., December 17.

All iron interests report a firmer tone in the iron market. In some cases a notch above the minimum price of \$9.50 for No. 2 foundry has been worked. But recently the United States Pipe Works took 30,000 tons in one order, which illustrates the character of the buying that has prevailed and which has not yet ceased. Since November opened one interest has booked orders for approximately 150,000 tons, and but little of it was for delivery beyond February. I now estimate the business booked in iron since November 1 as fully 300,000 tons, and I am inclined to believe this is rather an underestimate than an overestimate. Some iron is still being purchased account Eastern parties and stored in warrant yards to await enhanced values. Confidence has supplanted despondency. Very few sales for delivery beyond first quarter 1904.

I have just heard of the sale of No. 2 foundry at \$10 for prompt delivery. The growing firmness in the market is very manifest.

J. M. K.

The Iron and Metal Trades.

In its weekly review the Iron Age says: "The markets for foundry pig-iron are firmer, and, so far as the Southern product is concerned, the minimum price is now \$9.50 for No. 2 Birmingham, at which some business has been done in the principal distributing centers. This narrows the unusual gap between the prices of Southern and Northern iron, and gives

the latter an opportunity to do more than book urgent orders for prompt delivery, to which much of the business has been confined of late. Thus round sales of both Northern and Southern iron have been made in Chicago, while Pittsburgh reports transactions aggregating fully 50,000 tons to leading consuming interests for delivery during the first quarter and the first half of 1904."

The Pig-Iron Market.

Matthew Addy & Co., Cincinnati, under date of December 12, write:

"The surprising buying movement in Southern iron continued this week, and has had the result of putting up prices fifty cents a ton. The whole situation has been changed by the free purchasing for prompt and nearby shipment. A fortnight ago the furnaces in the South were embarrassed by the stocks in their yards. These were a dead weight, a handicap, a wet blanket thrown over any optimistic forecasts. But the Southern ironmasters put prices down to a level that was most decidedly tempting and attractive, and the result was beyond even the most sanguine expectations. So great has been the quantity of iron sold that the stocks on hand are no longer a menace. From now on they will sharply decrease.

"It is too early yet to note a change for the better statistically from a furnace-stock standpoint, for last month the visible stocks remained practically stationary. Production continues to be sharply curtailed. In November production was reduced 383,000 tons. December will see more furnace stacks cease operations, so that it is likely by the end of the year the balance will be on the right side of the ledger and consumption will again be up to production. This decrease in output is phenomenal. It has been so sudden, radical and general that its consequences cannot yet be fully determined, but it seems evident that the strong remedy needed by the market has been effectually administered.

"Of course, the feature of the situation is and has been Southern iron. Yet Northern iron is receiving considerable attention, and sales have been quite numerous.

"There can be no question but that matters are shaping themselves so that by the time the new year is really here there will be decidedly more sunshine in the iron situation than promised to be the case three months ago."

Machinery Equipment for Furnace, Mines, Saw-Mill, etc., Wanted.

The J. W. Cregar Agency, machinery, tools, special equipments, the Bourse, Philadelphia, under date of December 9, write the Daily Bulletin of the Manufacturers' Record as follows:

"We have an inquiry from big mine company in Mexico. It wants a complete and up-to-date plant for crushing sulphide ores, silver and copper, capacity of at least 100 tons per day, to increase in six months to 200 tons per day. It has enough ore on the dumps now to run 300 days at 200 tons per day.

"This same company also inquired for blowers for 100-ton blast furnace, and also blower for 200-ton blast furnace, all without power, as it wants to put in a water turbine and dynamo of 500 horse-power, 200-volt direct current, and will also want motors for five horse-power to seventy-five horse-power for driving all mining machinery and machine tools.

"It intends to build its own furnaces on the ground.

"It also wants:

"Six telephones and ten miles of wire, and all complete outfit for ten miles, telephone line with six stations, insulators,

lightning arresters for each phone; also wants switchboard, six incandescent arc lamps, 200 16-candle-power lamps, 200 volts.

"Pumps for mine use.

"Seamless steel pipe, one-eighth-inch to one-quarter-inch wall, two inches to four inches diameter.

"Iron pipe, all sizes; wants five tons of wire nails, all sizes; also twenty-five tons of iron rods, all sizes, and turnbuckles for same.

"Ton drill steel, all sizes.

"Iron washers, all sizes.

"Silent chain for motor drive; wants road-making machines; wants two 35 to 50-horse-power traction engines; also wants 250-horse-power water turbine and generator, 220-volt direct current.

"Complete saw-mill outfit for sawing logs into nine timbers and for making timber, boards and shingles for putting up machine shops, offices and workmen's homes.

"Wants single-spindle shaper for wood-work.

"Combination rip and cross-cut saw bench.

"Band saw, with jig-saw attachment.

"Planer for wood suitable for making boards, concave and convex, for building tanks; also for getting out floor boards, clapboards, etc., for building houses for workmen.

"Mortiser, with drill attachment, suitable for above line of work; also pattern-maker's lathe, top works only.

"Air compressors to be driven by motors; two wanted, capacity to run six Sullivan or Ingersoll rock drills.

"This office has the inquiry for all above, and the purchases will be made through this office in short time.

"We request that manufacturers send us catalogues and prices, and dealers' best discount for export. Terms cash.

"This office has also been made purchasing agent for the Limon and Agricola mines, near Jalapa, Nicaragua, Central America, and we would be glad to have manufacturers send to us their catalogues and export-trade prices on everything used in mines and sold in mining companies' stores."

To Develop Mt. Pleasant.

Mt. Pleasant, Tenn., December 12.

The Mt. Pleasant Land & Improvement Co. is the name of a new corporation which has been chartered with a capital stock of \$25,000. The incorporators and board of directors are J. S. Hill, president; W. D. Cooper, vice-president; Rufus C. Jackson, secretary and general manager; D. W. Shofner, treasurer; F. S. Wheeler, J. A. Bostick and W. H. Long. The company has been formed for the purpose of promoting the industrial interests of Mt. Pleasant and of the Tennessee phosphate fields, and inducements will be offered to capital and homeseekers to locate here. Already a big hardware company with \$25,000 capital and a \$20,000 furniture factory have been secured. The company for the location of a \$100,000 fertilizer factory is also being organized.

Mt. Pleasant is the center of the great phosphate district of Tennessee, and is on the Louisville & Nashville Railroad, sixty miles from Nashville. It is the terminus of the proposed Nashville, Gallatin & Mt. Pleasant interurban electric line. The town is surrounded by the richest agricultural section of the South, and has grown in the past few years from a village of only a few hundred inhabitants to a city of over 3000. The Land & Improvement Co. will make an effort to secure a more rapid development of this section, and the secretary and general manager will gladly furnish any information desired.

LOCAL BOARDS OF TRADE.

Not Enough Southern Towns Equipped With Them.

[Special Cor. Manufacturers' Record.]
Atlanta, Ga., December 12.

Every town in the Southern States of 500 or more population should have a board of trade, business league or other trade organization. In this era of progressive methods, concerted action and organized efforts such institutions are a necessity to every town and city, and those that have not got them are at a disadvantage with their more progressive neighbors who have.

A steady tide of immigration and investment is flowing southward, and once it reaches the objective sections its location is largely influenced by invitation and local conditions. The resources of the South are so evenly and equitably distributed that no one section has any great advantage over another, and it is the more active and progressive towns and communities that derive the greater benefit from the influx of people and money. It is true that some sections have a greater quantity of iron, coal, phosphate or other minerals than others, and better corn and cotton land, but the adjoining territory is usually equally as superior for the production of grain, fruits and vegetables. Every community should have an organization through which its commercial spirit can find expression, just as its moral and religious sentiments do through its churches, its governmental requirements through its municipal bodies, and its legal rights through its courts.

I do not suggest the more general organization of trade bodies merely for its purpose of stirring up rivalry between different towns and cities, although I do believe that the race always ought to belong to the swift, whether it does or not, but because every such organization contributes more or less to the success of the general plan to bring people and capital to the South. The South has suffered long and much from poverty and prejudice, but both of these we are about to overcome and to take our proper place as the greatest wealth-creative part of the world. But our resources are greater than we have either people or money to handle, and it is to our advantage to draw on the thicker-populated and less-favored sections for both, and in this work every community should take part, and that part can best be performed in an organized capacity. If one is considering locating or investing in a community, and wants to know how he is going to be received or his investment treated, they naturally desire the sentiments of the whole citizenship on these subjects, and not those of such scattering individuals as will take time from their private affairs to discuss them.

I have found that it is almost impossible to make a success of any public movement in a town where there is no commercial club, board of trade, business league or other commercial organization. Matters of general public interest do not appeal to the average busy business man unless they directly affect his private property or business; that is, unless it is a question of increasing or decreasing taxes, paving or not paving a street. It makes no difference how liberal and public-spirited he may be when he is busy in his office, counting-room, factory or farm, he always feels that his neighbor has more time to attend to such matters than he has, and he refers them, accordingly, and waits for the neighbor to act.

The South is awakening to its position and taking advantage of its opportunities, and those who sow most will reap most, and the best industrial planting machine

is a first-class, live and progressive business league or board of trade.

LEE J. LANGLEY.

One Month's Shipments of Texas Oil.

[Special Cor. Manufacturers' Record.]

Beaumont, Texas, December 13.

Shipments of Texas oil from Sabine Pass and Port Arthur during the period from November 10 to December 11 amounted to 709,043 barrels. The bulk of this, 545,311 barrels, went from Port Arthur, and the balance, 163,732 barrels, from Sabine Pass. One cargo of solar oil, 52,120 barrels, was shipped on November 15 by the tanker Pinna to Plymouth, England. The Gulf Refining Co. loaded the Pinna, which is owned and operated by the Shell Transport & Trading Co.

More than half of the oil represented in the shipments during the period stated went to the Standard Oil Co. at New York, Bayonne, N. J., and Point Breeze. The first cargo of water white distillates from the Security Oil Co.'s refinery at Beaumont went to the Standard Oil Co. at Baltimore by the steamer Conemaugh on November 23. The shipment was 16,283 barrels in bulk. The Standard's share of the month's shipments, according to the records, was 384,776 barrels; the J. M. Guffey Petroleum Co. took 159,292 barrels, the Sun Company 71,932 barrels, and the balance of the 709,043 barrels went to miscellaneous consignees, one being the Havana Power Co. at Havana, Cuba, which received a cargo of 9500 barrels by the Higgins Oil & Fuel Co.'s barge Gusher.

The price of crude oil at Sour Lake and Beaumont went to sixty five cents in tanks, but is a little weaker since the Security Oil Co. made its large purchases, mentioned in my last letter, and touched fifty-eight cents at Sour Lake yesterday. No one doubts, however, that unless new production is obtained the price will be seventy-five cents or better in forty-five days. Encouraging reports are received from Batson's Prairie, and news of additional developments there is expected. The Guffey pipe line from Batson's to Saratoga is in working order, but has not yet conveyed any oil.

Concerning the reported strike at Matagorda, the best information obtainable is to the effect that a stratum of oil sand and sulphur was encountered, and the drillers went through it into a salt-water stratum. When natural gas from the big gas well was introduced into the well it spouted, but there was not much oil mixed with the salt water which came out of the hole. Nevertheless, one of the interested persons, P. M. Lea of Corsicana, Texas, a practical well driller, is confident that further development of the oil stratum will show a big production. The present well will be sunk to the contract depth, 1500 feet, and an effort will then be made to develop the oil stratum.

Sour Lake production stays about the same, and is put at 41,000 barrels daily. Spindle Top is put at 16,000 barrels, and Saratoga at 1500 barrels. Jennings is between 2500 and 3000 barrels.

HOLLAND S. REAVIS.

The secretary of state of North Carolina issued during the year ended November 30 423 land grants and 554 certificates for domestic corporations, representing authorized capital of \$48,790,150, with \$15,771,490 subscribed to commence business with. Five railroads filed charters with the secretary of state, while others were chartered by the legislature.

According to a report from Kansas City, Mo., the Kansas City & Olath Electric Railway has obtained an entrance to that city over the tracks of the Metropolitan Company from Rosedale.

MISSISSIPPI FURNITURE.

A New Industry in the State's Hardwood Center.

(Special Cor. Manufacturers' Record.)
Greenwood, Miss., December 10.

The Weems-Lockwood Furniture Co. of Greenwood, Miss., has just completed and will in a few days put into operation a \$100,000 furniture manufacturing plant. The plant is of modern construction, and is equipped with the best machinery. The building is brick, 100 feet wide and 225 feet long, and four stories high. It is equipped with a private electric and steam heating plant, private water-works, yard hydrant system, hose houses, underwriters' fire pumps, emergency engines, etc.

Greenwood is in the heart of the Mississippi valley hardwood section, and has an abundance of oak, ash, gum, poplar, pine, cypress and cottonwood, and has the advantage of favorable freight rates and shipping facilities. The officers of the company are G. A. Wilson, president; Sam R. Weems, vice-president and general manager, and G. H. Lockwood, Jr., secretary and treasurer. The company is a strong one financially and personally. President Wilson is one of the wealthiest and most successful bankers in the Mississippi Delta. General Manager Weems, who is only thirty-two years old, has risen in sixteen years from a Georgia farm to a commanding position in the financial and manufacturing world, and Secretary and Treasurer Lockwood, who is only twenty-nine years old, has made his way from an apprentice boy in a woodworking shop to an expert furniture manufacturer. The entire working force of the factory are picked men from leading furniture factories throughout the country.

The Greenwood (Miss.) Board of Trade, recently organized, is one of the progressive organizations of the South, and is doing a valuable work for the development of Greenwood. J. D. Dixon, a large merchant having a chain of stores of all the Central Delta, is president, and Sam R. Weems, president of the Weems-Lockwood Furniture Co., is secretary. The organization has the unanimous and hearty support of the entire city in everything it undertakes. Greenwood is growing steadily and rapidly, having more than doubled its population within the past five years. Being practically a new city, it is constructed along modern lines, and is one of the most up-to-date cities in the Southwest. It is the junction point of the Illinois Central and Southern railroads, and an important shipping station on the Yazoo river.

Industrial News from South Carolina.

The Independent Cottonseed Oil Co. plant at Timmons ville is nearly completed and will be making oil this week. The capacity is twenty tons, to be increased to a 60-ton mill. It has a Tompkins breaker and 30-inch Foss attrition mill. The heater has twenty tons daily capacity, and the five-high roller mill has 16 and 14-inch rolls. The double separator has top and bottom reels. The mill also has six Continental linters and a 30-inch huller, the largest in use. The sand and bolt machine has been installed in the seedhouse, and in building detached is a first-class lint press, and the ginners have three stands Munger gins, seventy saws each. J. M. Hargett, expert for the D. A. Tompkins Company of Charlotte, put in the machinery.

The Timmons ville Oil Co. plant is nearing completion and will be making oil before Christmas. The machinery is supplied by the Van Winkle Company of Atlanta, Ga. Propulsion is given by an engine of 150 horse-power, and boilers aggregating 200 horse-power and electric

power is in place, and the company will install an electric-light plant to brighten the little city. Among the many superior advantages in the construction are automatically-closing doors in case of fire, and a great convenience is secured by the seed-house being tunnelled through, while great expense is saved by having chute conveyors from hullhouse above and mealhouse below to the wagons on the outside, and the track scales have automatic register. The Timmons ville Oil Co. is chiefly a local enterprise of the leading citizens, with Charles A. Smith, merchant, as president, who is the president of the Citizens' Bank, and the general manager is J. J. Lawton of Coker & Co., Hartsville. W. R. Eve, Jr., formerly of Florence, is resident manager and general superintendent, and he is an all-around oil-mill man.

Florence, with four arms of the Atlantic Coast Railway system—a big cotton and tobacco market—should have a cotton mill and a cigar factory.

John L. Dew will build at Latta a saw-mill and complete planing mill. John B. Moore is organizing a company to operate a brickyard at Latta and build a new plant at Fork Station, on the North Carolina branch of the A. C. R.

The O. C. Fore Ginney & Manufacturing Co. of Latta is putting in one extra steel brick machine, capacity 30,000 brick per day; also sander and automatic incut.

The Moore Company of Dillon will overhaul its local brickyard, and next season will also operate two yards at Mandeville, Marlboro county.

The Bethea Lumber & Naval Stores Co. of Dillon will add building and contracting with its saw and planing mill industries.

Timmons ville has shipped 6283 bales of cotton this season. JAMES CARSWELL.

The Demand for Cement.

At the second annual meeting of the Association of Portland Cement Manufacturers held in New York last week forty-two companies were represented. A number of the members reported that because of the enormous demand for cement during the last two years they had been compelled to keep their mills in continuous operation day and night without the chance of making repairs, and in view of that fact a resolution was adopted favoring the closing of mills for six weeks or more between December 1 and April 1. The opinion of the meeting was that the imports of cement would decrease during the coming year. Reports of committees appointed to confer with other associations in the matter of standard specifications for cement, iron and steel concrete construction, uniform contracts between manufacturer and dealer and manufacturer and consumer were made. A tentative agreement has been reached between the manufacturers of cement and Secretary of the Interior in regard to the bids for 200,000 barrels of cement to be used in the construction of the Conto basin dam in Arizona. Officers were elected for the year as follows: J. B. Lohr, president; A. F. Gerstell, vice-president; E. M. Young, secretary; E. R. Ackerman, treasurer; H. W. Maxwell, W. H. Harding, Robert W. Lesley, W. R. Warren, George E. Bartell, E. N. Hagger and S. B. Newberry, executive committee.

Mr. A. C. Wilcox of A. C. Wilcox & Co., 55 Liberty street, New York, vice-president of the proposed Fayetteville & Albemarle Railroad in North Carolina, writes the Manufacturers' Record that arrangements are now being made which it is hoped will result in having the railroad completed eighty miles within the next year.

Minerals of Mississippi.

Under an agreement recently made between the United States geological survey and Mr. R. H. Henry, Mississippi commissioner for the Louisiana Purchase Exposition, investigations of the economic geology of that State are now being carried on by United States geologists. It is known that large and valuable clay deposits and extensive beds of Portland-cement materials occur in Mississippi, but until recently no attempt has been made to procure such detailed information regarding the quality and quantity of these materials as is necessary before the deposits can be developed. The present co-operative investigation will remedy this defect and cause these valuable mineral resources to be brought to the notice of investors. Attention will also be paid to the development of the minor mineral resources of Mississippi, among which may be included glass sand, molding sands, lignite, red and yellow ochres and fuller's earth, all of which are known to occur in commercial quantities.

Metallic ores are not found in deposits of sufficient size or quality for mining anywhere in the State, and coal is also lacking, but the active development of the cement, clay and other resources named above would add greatly to the wealth of the community. The need for such an examination and report on the mineral wealth of the State has long been appreciated by its citizens, but the preparation of an exhibit for the St. Louis exposition has rendered it absolutely imperative that a preliminary examination should be made at once.

Developments in Kentucky.

Extensive developments of coal and timber properties in Kentucky have been undertaken by the members of the Stearns Salt & Lumber Co. of Ludington, Mich. Operations are being conducted under three titles—the Stearns Coal Co., Ltd., the Stearns Lumber Co. and the Kentucky & Tennessee Railroad. The lumber company has just completed at Stearns a mill that is said to be unique in the saw-mill industry. It is a double-cutting, double-band mill, operated by electrical power throughout. The power plant consists of vertical water-tube boilers and an engine direct connected to an alternating-current generator. Each machine in the mill is equipped with an induction motor, in many cases directly connected. The mill's capacity is 250,000 feet per day. The coal company is operating at Barthell, four miles west of Stearns. At these mines electricity furnishes the power for lighting, heating, ventilating, cutting, drilling and hauling. Shaker screens are used, furnishing any size coal demanded by the trade. The mine output is about 3000 tons per day. Connecting Stearns and Barthell is a standard-gauge railway, the Kentucky & Tennessee Railroad, equipped with powerful engines, log loaders and other devices for delivering logs from the timber lands adjoining the mill and the coal to the Cincinnati, New Orleans & Texas Pacific Railroad, which passes through Stearns. A busy industrial city has developed at Stearns, with dwellings, churches, schools, hotels and other advantages of city life.

New Process for Cotton Oil.

Announcement is made that manufacturers of Wilmington, N. C., will introduce a new process for obtaining cottonseed oil that they believe will revolutionize the handling of cottonseed and its products because of great economy. It is claimed that the process will take all of the grease from any grease-producing product, and do so much more economi-

cally that is done now by any other method. An initial plant will be built, to be ready for operation within sixty days, with a capacity of fifty tons of cottonseed meal daily, in order to demonstrate that the oil can be taken out of the crushed seed, down to less than one-fourth of 1 per cent., without the use of any press, and that the oil so extracted can be as highly refined as oils extracted by any other method. The remaining meal can be used as a fertilizer. Messrs. William E. Worth and associates of Wilmington are the principals in this enterprise.

Railroads and the People.

(The Railway Age.)

Broadly speaking, the railroads are neither more nor less under obligations to the people than the people are to them. As a general proposition, the people have profited more individually through the medium of the railroad than have those who have built them. It is a matter of common, if not almost universal history, that the advent of a railroad had the effect of immediately multiplying the value of the lands many fold. We have in mind the case of a large landowner whose property was located some distance from a railroad and who worked assiduously to secure a free right of way for a railroad that would reach his land. One of the arguments he used among his fellow-owners was that the value of their property would be more than doubled the moment the road was built. As a matter of fact, after the road was built the man sold some portions of his holdings for three and four times the amount of its previous value, while the road up to the present time has never been profitable. Notwithstanding this, he is one of the strongest opponents of the railroads, and is continually complaining of his large gift to the railway in the matter of the right of way. The same complaint is constantly urged against the Union Pacific Railroad because of the alleged enormous gifts by the government, whereas it can be proved that the amount saved to the government in the cost of transportation of Indian supplies and other material, which, before the railroad, it was obliged to haul in wagons, more than offsets the entire amount given and loaned by the government to the railroad.

Any fair consideration of the obligations incurred and benefits conferred as between the people and the railroads will conclude that the relation is one of entire interdependence. It is patent that the railroads depend upon the people for their revenue, but it is equally obvious that as society is constituted the people are no less dependent upon the railroads for everything that contributes to their welfare and convenience. It is therefore worse than idle for shippers or their representative to be continually harping upon the obligations which the railroads owe to the people. It is time that the broader ground of reciprocity should be recognized as applicable to both sides, and that when difficulties occur mutual interests should be considered in their solution.

An officer of the Texas & Pacific Railway is reported as saying that the company will not double-track its line from Dallas to Fort Worth, but that three very long switches or passing tracks have been constructed so that traffic may be facilitated. Perhaps at some future time the line may be double-tracked.

During November 19,380 tons of high-grade Florida phosphate rock were shipped through Savannah, Ga., to foreign ports.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4 a year.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

A NEW FRISCO LINE.

Kirby Lumber Roads to Be Taken Over and Greatly Extended.

The incorporation of the Houston, Beaumont & Northern Railway Co. in the interest of the Frisco system is announced from Houston, Texas. One of the prominent men in this new company is John H. Kirby of Houston, president of the Kirby Lumber Co., in which the St. Louis & San Francisco Railroad holds a large interest, and it is stated that the new corporation will take over about 150 miles of logging lines belonging to the lumber company, and will also build a direct line from Houston northeast to the Sabine river, 140 miles, crossing the stream fifteen miles south of Newton, and continuing into Louisiana to connect with the Frisco's New Orleans line. Branch lines will also be built in Texas for timber development, the line passing through the heart of the great pine forests in the eastern part of the Lone Star State.

In addition to building the main line proposed across the Sabine river, the charter provides that the road will also be built to Beaumont and Sour Lake, as well as to the towns of Woodville, Mobile, Buna, Call, Trofti, Newton and Roganville in Texas.

The directors are W. H. Lyford of Chicago, general counsel for the Frisco; C. W. Hildard of New York, controller of the Frisco; W. C. Preston of Fort Worth, general freight agent of the Fort Worth & Rio Grande, a Frisco property; John H. Kirby, W. C. Connor of Houston, the Frisco's commercial agent; B. F. Berger, Joseph Eagle, F. A. Reichardt, S. A. McNeely and F. A. Aldridge, all of Houston.

The capital of the company is \$500,000, and it will have general offices at Houston. Construction will, it is said, begin immediately after the completion of surveys. The charter has been filed by H. D. McDonald of Paris, Texas, who is general attorney for the Frisco system in Texas.

The Houston Post says:

"The chief inspiration for the construction of the new line is a desire to lessen freight charges and preserve as much of the gross profit as possible. At the present time the Kirby Lumber Co. is operating fourteen mills night and day. The tonnage coming from these mills amounts to approximately 150 cars per day. When this is multiplied by the 300 days during which the mills are in continuous operation the magnitude of the tonnage is apparent.

"An official of the company is authority for the statement that the annual tonnage of the Kirby Lumber Co. exceeds the annual cotton tonnage of Texas. The same official is authority for the information that should the Kirby Lumber Co. continue to pay freight charges as it has on its tonnage until its holdings shall have been cleared it would pay out between \$80,000,000 and \$100,000,000. The proposition to build a railroad, which will do much to lessen this expense, is therefore considered feasible and advisable.

"In addition to the further development of East Texas lumber fields, the new railroad will pay particular attention to cotton, rice and oil, the territory tributary to the proposed right of way being specially adapted to the pursuit of these industries.

"Local interests are not prepared to say

when the work of construction will begin, but the fact that the Kirby Lumber Co. has been receiving for some weeks large shipments of steel rails seems to confirm the opinion that the work will be shortly begun."

From New York it is reported that the Frisco system will not build an independent line all the way from Memphis to New Orleans, but at a point near where the boundaries of Mississippi, Arkansas and Louisiana meet a connection will be made with the Illinois Central and the tracks of the latter followed to the Crescent City.

PEARL & LEAF RIVER.

Plans to Make a Line From Natchez to Scranton via the Gulf.

The Pearl & Leaf River Railroad Co. has applied to the State for permission to change its eastern terminus, from Hattiesburg, Miss., to Scranton, eighty miles southeast, it being the intention to build an extension. This proposed construction would give the line an independent outlet to the Gulf.

The Pearl & Leaf River Railroad is now completed from Hattiesburg northwest to Silver Creek, and some months ago it received permission to extend to Natchez. If its plans are carried out it will have a line from Natchez, on the Mississippi, to Scranton, on the Gulf, about 200 miles, crossing a portion of the State that is now without east and west railroad facilities.

The officers of the Pearl & Leaf River Railroad Co. are: F. L. Peck, president, Scranton, Pa.; F. R. Davidson, vice-president, Hattiesburg, Miss.; C. P. Davidson, secretary and treasurer, Scranton, Pa.; M. H. McCabe, acting general manager, and O. R. Bilbro, auditor, both of Hattiesburg, Miss.

ELBERTON TO CLYO.

A Proposed Line Which Might Be Used by the Seaboard.

It is reported from Savannah, Ga., that plans are under way for building a railroad from Elberton, Ga., on the Seaboard's main line to Atlanta, to Clyn, on its line from Columbia to Savannah. The promoters of the project are not known, but residents of Augusta, Sylvania and Waynesboro, Ga., are believed to be interested.

The construction of such a road as this would give the Seaboard Air Line its long-desired short route from Atlanta to the sea, for it would connect by a railroad about 140 miles long its two main divisions and permit of quick transit to and from its ocean terminals at Savannah.

Several years ago the Seaboard proposed to build a line from Athens, Ga., via Augusta to Charleston, S. C., but inasmuch as the company constructed extensive terminals at Savannah it has since been expected that its aim would be directed to reach the latter city with some such extension.

Mt. Pleasant & Georgetown.

The proposed Mt. Pleasant & Georgetown Railway is, according to advices from Summerville, S. C., to be a standard-gauge steam line running from Mt. Pleasant, on the shores of Charleston harbor, northeast via McClellanville to Georgetown, sixty-five miles. Such a road would parallel the seacoast and go through an undeveloped country that is now covered with forests of long-leaf yellow pine and cypress. The land where cleared is said to be very fertile, and rice, tobacco and Sea Island cotton are raised. There are also a number of saw-mills and turpentine distilleries. Part of the country is devoted to truck-farming.

The road will lie about three miles from the coast, and the terminus at Mt. Pleasant will be near the ferry of the Charleston Consolidated Street Railway Co. B. Parker Miller of Summerville is president, and it is stated that the road will be built as speedily as conditions will permit.

Salisbury & Spencer Railway.

The construction contract for the Salisbury & Spencer Electric Railway at Salisbury, N. C., will be fulfilled by Knox, George & Co. of New Orleans, and James Z. George has ordered rails for the line, which is to be completed by April 1. It is further stated that A. L. Rich & Co., bankers, of Cincinnati will take the bonds of the company for the amount of nearly \$200,000, and will provide the funds for building the road, which will be about seven miles long altogether in Salisbury and to Spencer. The power-house will contain a lighting plant sufficient for furnishing electric lights for both towns. As heretofore stated, about two miles of line was partially constructed before the company was placed on the present financial basis, so that only about five miles remain to be built. The line was recently purchased by J. P. Hornaday & Co. of Cincinnati and associates, and the active work now in progress is the result of the deal.

Washington to Point Lookout.

A bill has been introduced into Congress by Senator Gorman to authorize the Washington, Potomac & Chesapeake Railroad Co. to extend its tracks into the District of Columbia. It is to enter via Anacostia. The company is a successor of the old Southern Maryland Railroad Co., which proposed to build between Washington and Point Lookout, Md. It is now operating twenty-one miles of line from Brandywine Station in Prince George's county, Maryland, on the Pope's Creek branch of the Baltimore & Potomac Railroad, southeast to Mechanicsville, Md. Henry W. Watson of Philadelphia is president. In addition to building the line now in operation, the company has constructed about forty miles of grade with the view of pushing the line through from Washington to Point Lookout.

North & South Arkansas.

Mr. R. D. Welch, president and general manager of the proposed North & South Arkansas Railroad, writes from Raven Springs, Ark., to the Manufacturers' Record saying that the company contemplates building a standard-gauge railway from Raven Springs, on the St. Louis & San Francisco Railroad in Lawrence county, Arkansas, due north to the Missouri State line, a distance of twenty miles, and also from Raven Springs south to Smithville, twelve miles, into the zinc fields of Lawrence county. Ten miles of the grading have been let from Raven Springs to Raven Springs in Randolph county, and J. B. Polley is engineer in charge. President Welch says that no contracts have been made yet for equipment.

Proposed Electric Railway.

Advices from Memphis, Tenn., report that the Shelby County Traction Co., which proposes to build an electric railway from Memphis to Collierville, Tenn., has received a proposition from large property-holders in Haywood, Crockett and Dyer counties to also build an electric railway—connecting the three counties—between Brownsville, Alamo and Dyersburg—about thirty-two miles long. It is stated that free rights of way and a cash subsidy are offered. Those interested in the Shelby County Traction Co. are T. J.

Latham, president; I. B. Hudson, general manager; J. M. Goodbar, Thomas Wellford, H. M. Williamson and John M. Hill.

Gould's West-Bank Line.

The Missouri Pacific's extension to New Orleans (the Memphis, Helena & Louisiana Railroad) is now completed from Halley, Ark., as far south as Clayton, La., where it connects with the New Orleans & Northwestern Railway, giving entrance to the Crescent City. The other connecting links—between McGehee and Latour, Ark., and from Marianna, Ark., to Memphis—are being completed as fast as possible. When those gaps are closed the line will be finished. Last summer the extension from Halley to Lake Providence, La., was opened for use, and now the section from Lake Providence south to Clayton has just been put into service.

Pamlico, Oriental & Western.

Henry R. Bryan, vice-president of the Pamlico, Oriental & Western Railway Co., of New Berne, N. C., is quoted as saying that work is progressing rapidly with the construction of the line. The grade is completed and track laid from the junction of the Atlantic & North Carolina Railroad to the Neuse river. Pile-driving for the bridge is under way, Samuel Howard of New Berne being the contractor. The bridge will be 5430 feet long, and 2600 piles will be needed in its construction. It will have a steel draw. The road will be sixty miles long, and it is expected will be completed next summer.

Columbia Street Railway.

It is reported from Columbia, S. C., that the Columbia Trust Co. has acquired control of the Columbia Electric Street Railway, Light & Power Co., and that E. W. Robertson, J. L. Minnaugh and B. L. Abney have been elected directors to represent the new interests. The officers of the company are: W. B. Smith, Whaley, president; W. A. Clark, vice-president; W. H. Lyles, secretary, and E. B. Clark, general manager. It is stated that extensive improvements are in prospect.

Railroad Notes.

Mr. Henry M. Steele, chief engineer of the Central of Georgia Railway, writes the Manufacturers' Record saying there is no truth in the report that the company will build a line from Andalusia, Ala., to Pensacola, Fla.

A dispatch from Washington announces that it has been finally decided to use white granite instead of marble for the construction of the new union depot to be built by the Pennsylvania and Baltimore & Ohio railroads.

Mr. Ona Carr, manager of the Buena Vista Extract Co. at Buena Vista, Va., writes the Manufacturers' Record that the company's narrow-gauge railroad is a purely private enterprise and that its completion has been deferred for some months.

Prospects are reported bright for building the proposed Fredericksburg & Rappahannock Electric Railway in Virginia. Rappahannock and Culpeper counties have, it is stated, each voted a subscription of \$50,000, while in Rappahannock county there are \$36,000 and in Culpeper county \$32,000 of private subscriptions.

Mr. W. H. Harrison, vice-president of the Himmelberger-Harrison Lumber Co., writes from Morehouse, Mo., to the Manufacturers' Record confirming the report that the Morehouse & Southwestern Railroad has been incorporated, but he says that there will be no further progress with the plan until the present financial conditions become settled.

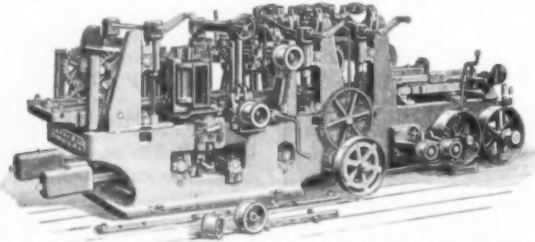
MECHANICAL.

New Planer, Matcher and Jointer.

A new and improved machine has been brought out by the J. A. Fay & Egan Company, Cincinnati, Ohio. It is called the No. 26 heavy six-roll double-cylinder planing, matching and jointing machine.

This is especially useful for car-building and repair shops and large lumber mills. See accompanying illustration.

It will plane to thirty inches wide and fourteen inches thick, and will work simultaneously three sides of two pieces of material of uneven thickness up to twelve inches wide and fourteen inches thick. The frame is massive, perfectly jointed



NEW AND IMPROVED PLANER, MATCHER AND JOINTER.

and bolted to insure rigidity and freedom from vibration. The steel cylinders are slotted on all their faces, and have chip-breakers for working cross-grained or knotty lumber. The matching works are substantial and of improved construction, and are fitted with a patent weighted matcher clip, producing an even pressure on material.

The feed works are very powerful, consisting of six powerfully-driven rolls, easily raised and lowered, and are heavily weighted. The rolls are divided, have accurate adjustments, and are always kept in true alignment. The feed is powerful, steady and uniform, and its rate can be furnished as desired.

Corliss Four-Stage High-Pressure Compressor.

Mining companies interested in the latest developments and improvements of machinery for facilitating operations at their plants will have their attention attracted by the accompanying illustration of a Corliss four-stage high-pressure compressor. This machine was recently built for the Oliver Iron Mining Co. of the United States Steel Corporation, and installed in one of its largest mines at Norway, Mich. The equipment consists of a cross-compound condensing Corliss engine, built for 150 pounds boiler pressure. A reheating receiver is placed between the high and low pressure cylinder. This receiver contains a reheating coil for reheating steam during its passage from high to low pressure cylinder, and is a feature essential to the economy of engines of this type, especially in connection with a compressor, as it is sometimes running at a very slow speed, and without a reheating device condensation would be very great. The cylinder lagging is made of heavy steel plate, and a space of four to five inches is allowed inside of this lagging for magnesia covering. Lagging around the cylinder, resembling a square box, is filled with this non-conducting material to prevent losses by radiation.

The compressor was built entirely of semi-steel, stronger and denser than ordinary cast iron, and the wearing parts are therefore more durable than if soft cast iron was used. Weight is reduced to a minimum because of the great strength of the material.

This class of machinery is so heavy, and in most cases has to be transported thousands of miles through parts of the country where the freight rates are high,

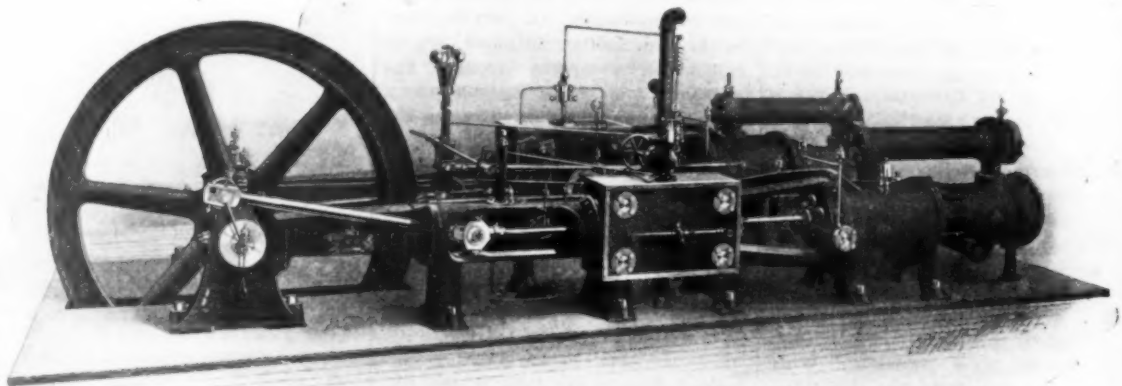
and the saving in freight between a machine built of the strongest metal and one built of soft inferior metal is considerable, as there is readily obtained a difference of 25 per cent. in weight between the two. Another loss that must be constant as long as the machine is in operation is the power required to keep in motion an unnecessarily heavy, unwieldy machine. The poorer the material the heavier the revolving and reciprocating parts of the machine, and the energy required to keep it in constant motion and to overcome the friction of these heavy parts will be much greater than that necessary to keep these parts in motion when made of lighter, stronger material. The crank, crankshaft, connecting rods and piston rods are

all made of the best grade of steel procurable for this purpose. All motion rods and pins for valve gear are made of steel, and all boxes and bearings for valve gear are of phosphor-bronze and adjustable for wear. The piston rods are packed with metallic packing. Sight-feed lubricators are provided for the high and low pressure steam cylinders. The governor operates the Corliss valve gear in combination with the air pressure. The flywheel is made sufficiently heavy to maintain a uniform speed at 10 R. P. M. This compressor was built for an air pressure of 1200 pounds. It is of the four-stage type, with air cylinders so arranged that the work done in the high and low pressure

they fill the cylinders their entire length, the air cannot leak past them. The suction valves in the intake and second cylinder are mechanically moved. The discharge valves of the intake and second cylinders are of poppet type and the following design: The valve and valve-seat are located inside of a removable cage, and held in place by a hand-hole plate. When this hand-hole plate is removed the valve cage containing valve and seat can be removed from recess in which they are located with bare hands without even the use of eyebolts. The pressure of the hand-hole plates forms a tight joint between cylinder head and valve cage. By this method is avoided making valve-seats against part of cylinder head, which is so annoying to keep tight when the seat becomes worn or leaky. When the loose cage valve and all can be removed, a spare valve and cage can be kept on hand to be put in its place when taken out. It can be ground and fitted and be ready to take the place of the next one which becomes leaky. By using a spare valve-seat and cage one can be taken out and changed each week if required, as it requires no longer to make the change than to remove the three nuts that hold the hand-hole plates. Thus these valves can be kept tight at all times. The suction and discharge valves in the two high-pressure cylinders are of poppet type. The valves are made of nickel steel. The recess in which these cages are inserted are tapered, and the outside of the valve cage is ground to fit in these tapered recesses. The cages fit on their outside their entire length, or the thickness of the head, as it is not advisable to depend on a narrow joint or shoulder for an airtight fit under so heavy a pressure. With the smallest amount of leakage across a joint of this kind with so heavy pressure, it would soon cut away the metal, and a very small leak under 1200 pounds pressure would

pressed into the outer shells with hydraulic pressure, so that in case of cutting or scoring from lack of oil, either one of these liners can be removed and new ones inserted. If the cylinders and liners were cast in one piece and the water jackets cored out, the cylinder would have to be rebored in case of cutting and a new piston made, or else the entire cylinder must be thrown away and a new one purchased, which is more expensive than a new liner.

The flow of the air through the various cylinders and intercoolers enters through the mechanically-moved intake valves in front end of forward air cylinder, located behind low-pressure steam cylinder. When compressed it is discharged through pipe shown on the side of cylinder into the first intercooler, located below the floor line. From this intercooler it is taken into the second cylinder, located on left-hand side of machine nearest to and behind high-pressure steam cylinder. After this second compression it passes through intercooler located on top of second and third cylinders, and the third stage takes place after passing through this intercooler. It is then discharged through a pipe passing under floor line from third cylinder, and enters intercooler located on top of intake cylinder on right-hand side of machine and fourth cylinder. This intercooler is separated into two compartments, so that the air travels in a loop through intercooler tubes and is drawn into fourth or final cylinder, where it is compressed to a pressure of 1200 pounds to the square inch. The front end of this intercooler is merely resting on upper side of intake cylinder. There is no connection between the intake air cylinder and this intercooler. Copper is used exclusively in the intercoolers for circulating tubes for cold water. The arrangements of the copper tubes in intercooler is such that they are free to expand and



CORLISS FOUR-STAGE HIGH-PRESSURE COMPRESSOR.

steam cylinders is nearly equal. The four cylinders are single-acting. In the intake and second cylinder, where air pressure is lowest, it is compressed against front heads. In the third and fourth cylinders, where pressure is greatest, the air is compressed against back heads of the cylinders. This avoids the use of stuffing-boxes and piston-rod packing under heavy pressure.

The pistons in the intake and second cylinders are of adjustable bull-ring type. They are also used in the engine cylinders, and in the third and fourth cylinders are made in the shape of a straight ram or plunger, filling the cylinder their entire length. They are also provided with a special spring packing. Special provision is made for lubricating pistons, and as

impair the efficiency of the machine enormously. With these cages fitting their entire length, and ground to fit like a plug cock, all danger of leakage or cutting away the metal with high pressure is eliminated. The poppet valves in all cylinders are cushioned, so that they work without noise or clicking. The water jackets are around intake and second cylinders are so designed that a body of water three inches in thickness circulates around the cylinder liners. The amount of water space around third and fourth cylinders varies from four to six inches between outer shell and cylinder liner, which allows for free and unrestricted circulation of cold water around cylinders. The liners in the air cylinders are independent of the cylinder castings and

contract from heat and cold without affecting the joints, so the expansion and contraction can take place without causing leakage. The speed of the machine is automatic, and varies automatically from 10 to 125 R. P. M.

An automatic air governor acts on automatic cut-off mechanism of valve gear, and speed is automatically increased and decreased, according to amount of air used. In order to economize on foundations, the third and fourth cylinders may be built overhanging from ends of the intake and second cylinders. The foundation may terminate at back ends of the first and second air cylinders. A pedestal may then be located under rear ends of third and fourth air cylinders, and a cast-iron plate on which these pedestals rest

bolted to floor. The pedestals themselves, however, not bolted in this case, so as to allow for the expansion and contraction of the metal of this part of the compressor taking place without hindrance. A considerable amount of money can be saved in the foundation in this way.

This compressor was built by the Sullivan Machinery Co. of Chicago. The company is prepared to build these machines in all sizes, and for any steam and air

are few working parts to require repair. Direct steam pressure is used and all motions are cushioned, thus preventing all jars and vibration. All cylinders are cushioned at each end of the stroke, and can be worked at full stroke at high speed without damage or shock.

The steam consumption is small. This is due to direct application of steam to moving parts. No power is wasted in friction clutches, chain sheaves or gear-

car can be raised and swung onto the track again. The dipper can be moved forward or back by means of the forcing cylinder, thus giving a chance to withdraw the dipper from the bank when full and dump without going clear through to the top of the bank. This movement is also used in spotting the car when dumping. By using both oscillating and forcing cylinders a straight horizontal thrust along the ground is obtained. Dipper can

trucks standard for 60,000 pounds capacity car.

Jack arms of box-frame construction; upper end pinned near top of corner posts, lower end braced to body of car. At lower end of arm is a casting through which jack-screw turns.

Boiler is locomotive type, sixteen feet over all, diameter fifty-six inches, extra well made and tested. Boiler fittings consist of steam gauge, gauge glass, gauge cock, pop safety valve, whistle, blow-off cock, Marsh feed-pump ejector, injector, feed-water heater and suction hose.

Machinery consists of double-cylinder propelling engine, four direct-acting steam cylinders used in digging and swinging and small direct-acting steam cylinder used to trip dipper latch. Cylinder used in swinging is located on car floor, and has powerful steel rack on piston-rod which meshes with a heavy steel gear at bottom of mast. To crosshead of lifting cylinder, which is located in the mast, is attached the back end of boom by means of cast-steel connecting rods. This cylinder is used in raising dipper through bank. Cylinder pivoted in main fulcrum, called the oscillating cylinder, is connected to upper end of dipper arm and used to give forward and back swing to dipper. The cylinder located in boom, and called the forcing cylinder, is connected to fulcrum of dipper arm through a cast-steel crosshead and bearing located in dipper arm. This cylinder is used to give direct horizontal thrust to dipper along the ground.

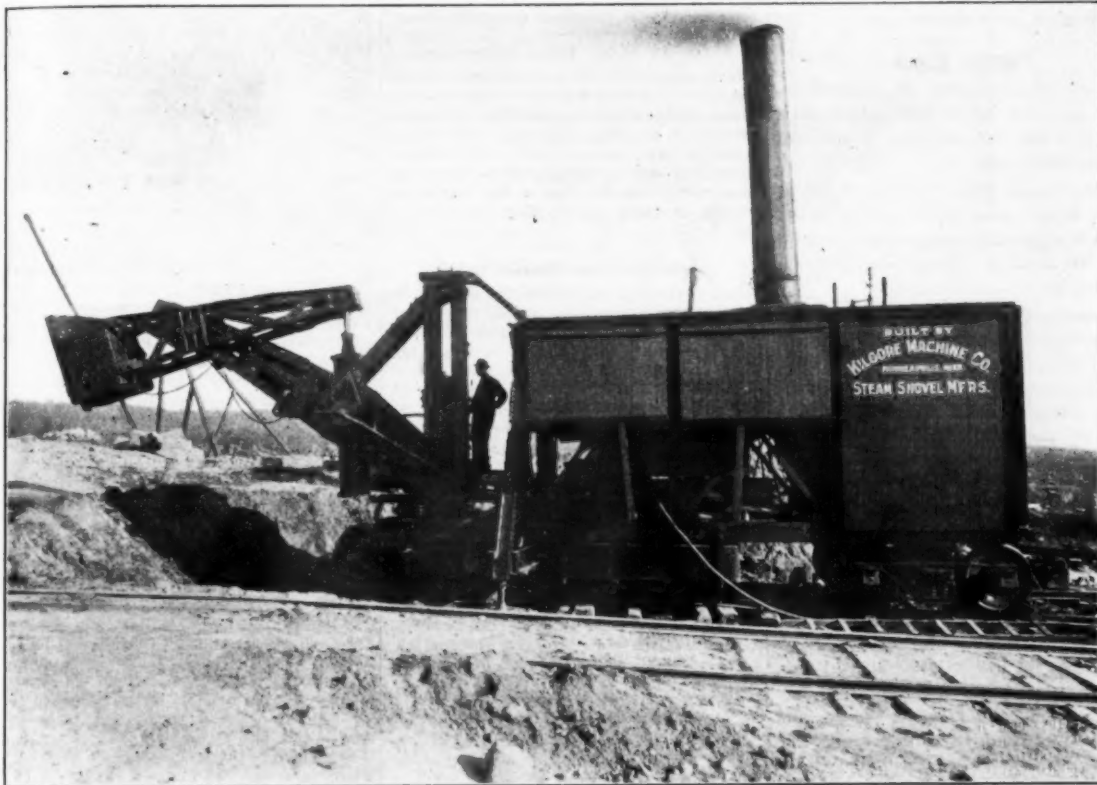
Small cylinder for tripping dipper latch is controlled by a foot lever on engineer's platform.

Lever connections are such that any or all cylinders can be operated singly or together, two levers controlling all four cylinders.

Oil and grease cups, sight-feed lubricator, oil pump and full set of tools and wrenches are furnished.

The shovel is a combination of rolled-steel standard sections and iron and steel castings. Mast, boom and dipper are all box-frame construction, of standard structural steel. All materials and workmanship of best quality, and all parts made to standard templates, insuring satisfaction in repair parts.

The Kilgore Machine Co. of Minneapolis, Minn., builds the Kilgore shovel in a number of sizes.



KILGORE 2½-YARD STEAM RAILWAY SHOVEL.

pressure required, from 350 cubic feet free air capacity up to the greatest amount required. It is also prepared to build engines, simple, compound, triple or quadruple expansion, and the compressor part two, three, four, five or six-stage, according to the pressure wanted.

2½-Yard Steam Railway Shovel.

Accompanying illustrations present the Kilgore Direct-Acting Steam Railway Shovel, a speedy, simple, durable and economical machine.

All movements of the dipper are controlled by four powerful direct-acting steam cylinders having light balanced valves operated by two easy-moving hand levers, giving many desirable motions to the dipper unattainable in any other shovel. The engineer holds one lever in each hand, and the dipper responds instantly to every motion of the lever, quick or slow, and moves in the direction his hand moves. The direct-acting principle as applied to the swing gives a very speedy motion and also permits of perfect control. The engineer's platform swings with the dipper, giving him an unobstructed view of the dipper at all times and enabling him to dump the dipper load where desired by a steam cylinder operated by a foot lever. This permits him to handle the shovel in the most effective manner. While the movements are all very powerful, the machine responds to the levers instantly and is always under the perfect control of the operator. There are no chains, chain sheaves, winding drums, friction clutches, gears, hoisting engines or cables used. All small parts are eliminated and all the machinery is direct-connected and direct-acting.

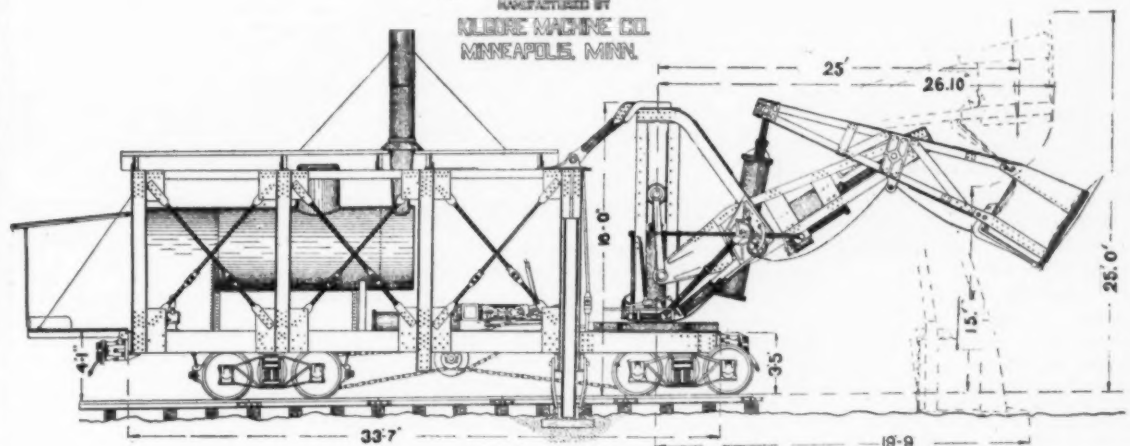
The machine is built almost entirely of steel, and is strong, rigid, powerful. There

ing. The forces for both crowding and hoisting are in direction of resistance to cutting edge of the dipper. The maximum amount of steam possible to use for one motion of the dipper is only that necessary to fill each cylinder once. Steam is used expansively to a great extent, the point of cut-off being controlled by the engineer's levers. One man does the work ordinarily done by engineer and cranesman, as the engineer both fills and dumps

actually be shaken violently to toss off the sod or any large boulders too big to pass through the dipper opening, or to clear itself of sticky clay. By working two pistons at once the dipper can be moved in a direct line to the point desired. The dipper can dig in all kinds of materials, nose around a root or rock, reach beyond it to pull it back, pick it up, move in a direct line to the dumping point and toss it out over the top of the dipper if necessary.

2½-YARD RAILWAY SHOVEL

MANUFACTURED BY
KILGORE MACHINE CO.
MINNEAPOLIS, MINN.



SECTIONAL VIEW OF THE KILGORE SHOVEL.

his dipper by steam, thus saving the expense of one man. Each cylinder is at rest except when required to perform the particular duties for which it was intended, thus avoiding waste of steam.

All motions of dipper can be reversed with equal power. If front trucks get off the rail, the dipper can be lowered onto the ground, and, by using lifting and swinging cylinders, the front end of the

These shovels, all set up, conform to standard railroad clearances, and so no change is necessary for shipment.

The specifications of the 2½-yard machine illustrated are as follows:

Car body thirty-three and one-half feet long and ten feet wide, built entirely of steel I-beams and channels.

Trucks all steel of M. C. B. standard throughout. Front tracks standard for 100,000 pounds capacity car and rear

From Lexington, Va., it is reported that the Buena Vista Extract Co. of Buena Vista, Rockbridge county, will build a railroad from the Crabtree Falls timber lands, which it has purchased, to connect with the Norfolk & Western Railway.

Columbus (Ga.) Manufacturing Co. has declared its usual semi-annual dividend of \$3 per share.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Hiss Manufacturing Co.

Last June the Manufacturers' Record announced the incorporation of the Hiss Manufacturing Co., its purpose being to build a cotton mill of 25,000 spindles and 800 looms at Rhodhiss, N. C. It was then stated that the new mill is to be operated by electricity transmitted from the same water-power as is used by the Rhodhiss Manufacturing Co., now operating a mill of 15,000 spindles and 420 looms, both companies being under the ownership of Messrs. George B. Hiss of Charlotte, John M. Rhodes of Rhodhiss and their associates. Contract has now been awarded for the construction of a steel bridge across the Catawba river at Rhodhiss to be completed March 15, and then active steps will be taken to erect the new mill. The bridge will consist of two spans of 225 feet each, exclusive of approaches on either side of 80 and 100 feet each, supported by stone piers and abutments. The Rhodhiss Manufacturing Co. has awarded contract for the erection of forty additional tenement cottages, to be completed by March 15. The Hiss Manufacturing Co. is capitalized at \$500,000, and its product will be a high grade of cotton goods.

Annual Meetings at West Point, Ga.

The annual meetings of the Lanett Cotton Mills, West Point Manufacturing Co., Riverdale Cotton Mills, Lanett Bleachery and Dye Works and Chattahoochee Valley Railway Co. were held in the general offices, West Point, Ga., on December 10. L. Lanier was elected president of Lanett Cotton Mills and the West Point Manufacturing Co.; James Pierce, president of the Riverdale Cotton Mills; W. H. Wellington, president of the Lanett Bleachery and Dye Works, and L. Lanier, president of the Chattahoochee Valley Railroad Co.

The reports of these companies showed a large and satisfactory business, and the usual dividends were declared.

These corporations are consumers of about 50,000 bales of cotton yearly and employ about 2400 operatives. They are well supplied with cotton, having bought largely when the price was much below the ruling figures of today, and they do not contemplate any curtailment of their production.

Adding 15,000 Spindles.

Mention was made last month that the Manetta Mills of Lando, S. C., had decided to install additional machinery. All arrangements have been completed for the improvements, and buildings to accommodate the new equipment have been about completed. Contracts have been awarded for the machinery, and by March 1 the company expects to begin operating its 15,000 spindles additional. It is probable that about \$250,000 is the cost of the enlargements. The company's present installation is 15,000 ring spindles and 400 looms, producing 8s to 40s yarns and cloth.

The Cotton Movement.

In his report for December 11, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the 102 days of the present season was 5,742,857 bales, an increase over the same period last year of 46,437 bales; the exports were 3,065,524 bales, an increase of 233,573 bales; takings by Northern

spinners, 720,242 bales, a decrease of 36,759 bales; by Southern spinners, 695,950 bales, a decrease of 4670 bales.

Tyger Cotton Mills' Improvements.

The stockholders of the Tyger Cotton Mills of Fairmont, S. C., held their annual meeting last week, and found the property in most satisfactory condition. It was decided to increase the productive capacity 50 per cent. At present there are 8200 spindles and 200 looms in the plant. Details as to the improvements will be given early consideration.

Textile Notes.

Dallas Manufacturing Co., Huntsville, Ala., has declared a semi-annual dividend of 3 per cent. on both its common and preferred stock.

Maple Cotton Mills of Dillon, S. C., of which details were given several weeks ago, will eventually be increased to a total of 17,000 spindles. It now has 7296 ring spindles, as was stated recently.

Margolius Cotton Mills Co. of Norfolk, Va., has amended charter, changing title to the Margolius Co. and increasing capital stock from \$100,000 to \$150,000. It manufactures batting and comfortables. Probably enlargements are contemplated.

Messrs. W. J. Keenan and J. L. Minnaugh of Columbia, S. C., have applied for the incorporation of the Keenan Yarn Mills, with capital stock of \$60,000. They intend to build a mill for manufacturing fine yarns, and details are now under consideration.

Erroneous reports during the week stated that the Floyd Cotton Mills, Rome, Ga., was destroyed by fire. But only parts of the building were burned, and most of the damage was by water. The company will make whatever repairs are necessary to rehabilitate this plant of 5136 spindles and 112 looms.

Cliffside (N. C.) Mills, reported last week as to enlarge its plant, will not arrange for any improvements in the near future. However, the mill was originally planned for a much larger equipment than at present in position, and consideration will be given later on to the installation of additional machinery. There are about 10,000 spindles and 610 looms operating now.

The Calumet Manufacturing Co. of Liberty, S. C., has been incorporated, with capital stock of \$150,000, by Messrs. H. L. Clayton, B. H. Callahan, J. S. Wilson and H. C. Shirley. This company was announced in November as applying for charter with \$50,000 capital, but, as stated later, it decided to build a much larger mill than at first contemplated. The details are now under consideration.

QUOTATIONS OF COTTON YARNS.

By Buckingham, Paulson & Co., New York, Philadelphia and Chicago, December 15.

No. 10s-1 and 12s-1 warps.....	19 1/2 @ 20 1/2
No. 14s-1 warps.....	21 60
No. 16s-1 warps.....	21 1/2 @
No. 20s-1 warps.....	22 60
No. 22s-1 warps.....	22 1/2 @
No. 6s to 10s yarn.....	18 60 @ 18 1/2
No. 12s-1.....	19 60
No. 14s-1.....	20 1/2 @ 21
No. 16s-1.....	21 60
No. 20s-1.....	21 1/2 @ 22
No. 22s-1.....	22 60
No. 24s-1.....	22 1/2 @
No. 8s-2 ply soft yarn.....	19 60 @ 19 1/2
No. 10s-2 ply soft yarn.....	20 1/2 @ 21
No. 8s-2 ply hard.....	18 1/2 @ 19
No. 10s-2 ply hard.....	19 60
No. 12s-2 ply hard.....	20 60
No. 14s-2 ply.....	21 1/2 @ 22
No. 16s-2 ply.....	22 60
No. 20s-2 ply.....	22 1/2 @
No. 24s-2 ply.....	24 60
No. 28s-2 ply.....	24 1/2 @ 25
No. 30s-2 ply yarn.....	25 60
No. 40s-2 ply.....	29 1/2 @ 30
No. 8s-3, 4 and 5 ply.....	18 1/2 @ 19
No. 20s-2 ply chain warps.....	23 60
No. 24s-2 ply chain warps.....	24 1/2 @ 25
No. 26s-2 ply chain warps.....	25 60 @ 25 1/2
No. 30s-2 ply chain warps.....	26 1/2 @
No. 16s-3 ply hard twist.....	22 60
No. 20s-3 ply hard twist.....	22 1/2 @
No. 24s-3 ply hard twist.....	24 1/2 @ 25

INDUSTRIAL NEWS OF INTEREST.

Big Contract for Elevators.

The Otis Elevator Co. of New York will install in the 25-story building of the International Banking Corporation, 60 Wall street, eight hydraulic passenger elevators and two electric freight elevators.

Coal, Corundum and Tale Lands.

Capitalists looking for desirable mineral properties in the South are notified that a well-developed corundum mine, two tale mines, 30,000 acres of undeveloped coal land and two coal mines in operation are offered for sale by A. S. Emerson, Knoxville, Tenn.

Durable Wire Rope Company.

It is announced that the Durable Wire Rope Co. of Boston has leased and removed to the remodeled stores Nos. 26-28-30 Atlantic avenue, at the head of Lewis wharf. This company thus secures better accommodations, and solicits correspondence and personal visits from the trade in wire ropes and fittings, of which the company carries a full line.

Free Site for Cotton Mill.

One of the best cotton-growing sections of the South is the territory surrounding Coats, N. C., a new town on the Cape Fear & Northern Railroad. The location is healthful, there is plenty of available labor in the vicinity, and transportation facilities are afforded by railways. J. T. Coats offers to give a four-acre tract of land to capitalists who will build a cotton mill at Coats.

American Pulley Co.'s Agent.

Messrs. Patterson, Gottfried & Hunter, Limited, 146 Centre street, New York, have purchased the entire stock of American Steel Pulleys formerly carried by the Niles-Bement-Pond Company in New York, and are now the sole representatives of the American Pulley Co. in New York city. The new representatives have an extensive stock of machinery, metals, hardware, tools and supplies at their stores.

Herron-Brady Contracts.

Some large contracts have lately been signed by the Herron-Brady Pump & Foundry Co., manufacturer of pumping machinery at Chattanooga, Tenn. The contracts include one with the Cairo (Ill.) Water Co. for a pump of 4,000,000 gallons capacity; with Lawrenceburg, Ky., for pumping engine, and with Clayton, Ala., for complete waterworks system, including pumping engine, boiler-feed pumps and heater, fire hydrants and gate valves.

Send Your Calendars for Exhibit.

Manufacturers, mercantile establishments and other enterprises issuing calendars for 1904 are invited to send copies to the Young Men's Christian Association, Asheville, N. C. The association will have an exhibit from January 1 to 15 of this style of advertising, and anticipates a large display. Asheville being thronged with visitors at this time of the year, the exhibit and subsequent sale will give considerable publicity to the advertisers sending calendars.

Lumen Bearing Co.

In referring to the monthly calendar of the Lumen Bearing Co. in the Manufacturers' Record of December 3 the company's title was inadvertently given as the "Lumber" Bearing Co. The error was doubtless evident to most readers, as the Lumen Bearing Co.'s product of lumen bronze castings, alpha bronze castings, ideal trolley wheels, etc., is extensively and favorably known to users of that class of material. The company's office and works are at Buffalo, N. Y.

Proposed Atkins Improvements.

Among the improvements contemplated by E. C. Atkins & Co., saw and tool manufacturers, Indianapolis, Ind., on the ground acquired by their purchase of the Parry Manufacturing Co. plant, is the erection of a complete knife factory, equipped with the latest improved machinery and appliances for the production of machine knives of every description. This addition to their present facilities will enable Atkins & Co. to meet the rapidly growing demand for their high-class products in this department of their business.

Important Order Placed on Merit.

The Hartford Blower Co. of Hartford, Conn., has received an order for furnishing exhaust systems for the building and plating departments of the N. Y. N. H. & H. R. R. at the new shops, Readville, Mass. The exhaust apparatus consists of two special direct-connected motor-driven Hartford adjust-

able exhaust fans, Hartford patent improved dust collectors, galvanized sheet-steel piping, hoods, etc., with many new special fittings and attachments. This order is a testimony of the high quality exhaust equipment furnished by the Hartford Company.

Sarie is Chosen Engineer.

In last week's Manufacturers' Record brief reference was made to O. Perry Sarie, civil engineer, 146 Westminster street, Providence, R. I., in connection with expert advice for improving the water-works at East Greenwich, R. I. Mr. Sarie has since been appointed engineer for the water-works to cost \$50,000 and sewerage system to be built and constructed by the city of Hickory, N. C. Edward W. Shedd will be associated with Mr. Sarie in this work. Securing this contract shows that Mr. Sarie's ability in his profession is recognized in the South.

Cohen-Schwartz Rail & Steel Co.

Buyers and sellers of scrap iron and steel, relaying rails, old railway supplies, etc., are asked to note that the Cohen-Schwartz Rail & Steel Co. of St. Louis, Mo., has moved from Main and North Markets streets. The new location, which includes office and yards, is at Wharf I, block south of Tyler street, where correspondence should in the future be addressed. This company transacts an extensive business in the materials mentioned, and is at present particularly interested in rails and desirous of submitting prices to those who are in the market.

Factory Sites Free.

Developments in West Virginia during recent years have resulted in the establishment of many manufacturing plants in that State. The coal, gas and oil regions especially have attracted important industries. In Wetzel county there is a manufacturing town called Steelton, where natural gas and coal, ample water supply, railroad and water shipping facilities are at hand to promote profitable operations. Factory sites are offered free at Steelton, and information regarding the propositions open to manufacturers can be obtained by addressing the New Martinsville Improvement Co., 1505 Chapline street, Wheeling, W. Va.

For Lubrication Troubles.

Engineers who once test Albany Grease for lubrication troubles quickly "get the habit," and thereafter it is the usual practice to continue using it for years. The Charlottesville (Va.) Woolen Mills, writing under date of December 1, 1903, to Messrs. Adam Cook's Sons, 313 West street, New York city, the only makers of Albany Grease, state that they have been using Albany Grease for twenty or twenty-five years, and always with the greatest satisfaction. John Walters, engineer of H. Croft, Sons & Co., Camden, N. J., writes: "I have used Albany Grease over ten years, and have never had hot bearings. I want no other but Albany Grease."

A Portable Ventilating Set.

In no branch of government service has the matter of ventilation been given such serious consideration as in the navy. The construction of the modern vessel renders it extremely difficult to secure proper ventilation in some portions below the water line. Noticeable for its novelty among the various methods used to properly ventilate such places is the portable ventilating set, consisting of a small exhauster of the Monogram type directly connected to an enclosed electric motor. It is very light, moves a large body of air, and is provided with handles for carrying from place to place, enabling the crew to work in any portion of the vessel with comfort, and is but one of the many types of blowers manufactured by the B. F. Sturtevant Co. of Boston, Mass.

Walter H. Whiteside.

The electrical trades will be interested in the announcement that Walter H. Whiteside, manager of detail and supply department of Westinghouse Electric & Manufacturing Co., has also been made general manager of the Sawyer-Man Electric Co. Mr. Whiteside has been connected with electrical interests for nearly twenty years, and during that time has extended his acquaintanceship to every part of the company, so that few men are better known than he in this field. He became special salesman for the Westinghouse Company in Chicago in 1888, in 1889 was sent to Washington to take charge of sales to the government, and in 1900 was made manager of the company's office for the District. From the Washington office Mr. Whiteside was promoted to the

Simple of out-sterling three certain and pump who stream the w score o ship at sign w perform The p is that Pumps street, was fl time h It offer of all tions, that w they an

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Impro It is of circular forated in this cou vogue in Germ As these this coun stability, radial pe system a perfected years dev tion of su and groo walls of f far sup those bu tem. Afte ring, who been slip sure or e or the ot its place the walls struction, exterior o ficial me struction by the Str tion Co., mingham, chimneys, neys while connection torts, etc.

Extens There w chinery an ment of t the South But that t and alway the produ era shops are impor mands in a brief re lishments, which ar Sanford-D

management of the detail and supply department, with headquarters at Pittsburg.

Modern Steam Pumps.

Simplicity, durability and entire absence of outside valve gear or moving parts are sterling qualities in steam pumps. These three points of excellence are combined in a certain make of pump that has been known and received with the greatest favor by pump users for some forty years. Those who have had practical experience with steam pumps to any extent usually recognize the wisdom of refusing to sacrifice, on the score of cheapness, high quality of workmanship and material and the excellence of design which a pump must have in order to perform its duties to the best satisfaction. The particular make of pumps referred to is that built by the A. S. Cameron Steam Pumps Works, foot of E. Twenty-third street, New York. The Cameron company was first established in 1869, and since that time has been a leader in its chosen field. It offers its equipments for pumping liquids of all kinds under the most exacting conditions, and is prepared to supply machines that will thoroughly do the work for which they are intended.

Long Hawser Towing.

One of the menaces to safe navigation in any harbor is the towing of vessels on a long hawser instead of alongside. All who are familiar with harbor activity are well aware of the fact that frequent accidents occur because of long hawser towing. There has been previously introduced a towing machine which minimizes the possibility of such accidents. This is effected by the use of a steam hawser, which wears indefinitely when attached to the towing-machine drum, which winds up or pays out slightly when the strain on it reaches the maximum, and handles the largest necessary steel hawser with the ease that a deckhand will handle a heaving line. The Marine Journal of New York, December 5, refers to this at some length, and says that "when the towing machine and steel hawser is generally adopted the accidents from long towing hawsers and rotten ones parting will be reduced to a minimum and will silence complaint from navigators who condemn towing vessels astern on hawsers." It may interest some of our readers to know that some valuable information concerning improved towing machines and perfected towing apparatus can be obtained on request to the American Ship Windlass Co. of Providence, R. I.

Improved Chimney Construction.

It is only during the past three years that circular chimneys built on the radial perforated brick system have come into use in this country, although they have been in vogue in Europe for many years, especially in Germany, England, France and Russia. As these chimneys become better known in this country they are appreciated for their stability, economy and appearance. The new radial perforated tongued and grooved block system as introduced by G. Steinfel has been perfected during an experience of over ten years devoted to the construction and erection of such structures. By means of tongues and grooves along the vertical joints the walls of the chimney, it is claimed, are made far superior in strength and stability than those built on the ordinary radial brick system. After the completion of each course or ring, when the last or keystone block has been slipped in from above, no wind pressure or expansion will be able to move one or the other of the sectional blocks out of its place in any direction. The cracking of the walls is prevented by their very construction, instead of by the employment of exterior or interior iron rings or other artificial means. Contracts for chimney construction under the system noted are taken by the Steinfel Improved Chimney Construction Co., 201 Title Guarantee Building, Birmingham, Ala. Besides constructing new chimneys, this company repairs old chimneys while in use and performs all work in connection with the setting of boilers, reboilers, etc.

Extensive Southern Iron Works.

There was a time when little of the machinery and supplies needed in the development of the natural industrial resources of the South could be obtained in that section. But that time has passed, and while there is, and always will be, an extensive market for the products of Northern, Eastern and Western shops and factories, yet Southern plants are important factors in meeting the demands in their section. These facts suggest a brief reference to the iron-working establishments, some of the most important of which are located at Knoxville, Tenn. The Sanford-Day Iron Works is one of these en-

terprises. This company has a modern plant in every detail, and it manufactures an extensive line of mining cars of all kinds, lumber trucks, push cars, charcoal wheels, drums, sheaves, logging cars, patterns, etc. The Sanford-Day plant is steadily being enlarged. Last year a new foundry covering 7000 square feet of molding floor was built, and recently contracts have been awarded for additional warehouse, machine shop, car erecting shop, pattern-house and blacksmith shop, and for a large lot of new and latest improved machinery and tools. Mr. Whitney, maker of the well-known "Whitney" wheels, is the company's metallurgist and chemist. Under his direction car wheels and all manner of special and general castings, soft or chilled iron, up to ten tons weight, are produced. Crusher jaws, hammer dies, sand rolls and all varieties of special castings requiring particular qualities are made at this plant. Coal and wood heating and cook stoves and a comprehensive line of hardware specialties are also a part of the Sanford-Day output. The company is supplying a large trade in the South and elsewhere, and finds the excellence of its goods constantly increasing the demand.

Shaw Machinery Contracts.

One of the best-known dealers in new and second-hand contractors' machinery in the West is Willis Shaw of 171 La Salle street, Chicago. Mr. Shaw is also sales agent for the "Davenport" locomotive, Flory hoisting engines, North Penn Iron Co.'s locomotive cranes and Blaisdell air compressors. He reports a continuance of good inquiries and satisfactory business. Mr. Shaw has just secured an order for eight carloads of Flory hoisting engines for the coal docks of Standard Coal Co., Milwaukee, and Two Rivers Coal Co., Two Rivers. Six Flory hoists, 100 horse-power each, will be installed in the Milwaukee plant, and the Flory engines were selected in view of the satisfaction given at Escanaba and Green Bay docks, where they are also used. The Hoisting & Conveying Machinery Co. of Chicago has the general contract, and the Flory machines are furnished by Mr. Shaw. Other Shaw contracts included the following: Air compressor and rock drills for Rowley Mining Co., Buncombe, Wis.; 45-ton steam shovel, Porter Bros., Duluth, Minn.; prospecting mine hoist, J. T. Duffy, Louisville, Ky.; "Davenport" locomotive, Cole Creek Coal Co., Big Muddy, Wyo.; traction steam shovel, McDonald-McMillan Co., Winnipeg; Flory hoisting engine, Lincoln Park Commissioners, Chicago; mine drills, Antler Coal & Coke Co., Antler Sliding, W. Va.; hoisting engine, Stirling Company, Barberton, Ohio; traction engine, C. C. Provino, Grenada, Miss.; revolving and traveling derrick and quarry drills, Onaway (Mich.) Limestone Co.; Flory hoisting engine, M. Suck, contractor, Mobile, Ala.; steam shovel, South Bend (Ind.) Electric Co.; hoisting engine, Peoria (Ill.) Water-Works Co.; 28x30-inch saw-mill engine, Tremont (La.) Lumber Co.; hoisting engine, Pepper & Register, Philadelphia, and stone crusher, Bickford Bros., New Orleans.

Tests of Limoid and Portland Cement

Users of Portland cement, and especially those noting developments in the manufacture and use of hydraulic lime, will be interested in reference to tests of "Limoid" and Portland cement by Messrs. Booth, Garrett & Blair, chemists, of Philadelphia. These are one-year tests, and, in comparison with the shorter time tests, are extremely gratifying, showing excellent increase in strength by age in every case; in fact, a percentage increase between three months and one year, which is very rarely, if ever, shown in cement tests. The Charles Warner Co. of Wilmington, Del., manufacturer of "Limoid," presumes that the large increase is mainly due to the more gradual setting and strengthening properties of lime, which, as is well known, require some time to work into its final carbonic and silicate forms. There is one interesting point to be brought out in connection with these tests, namely, that ordinary good mixing of dry sand, hydrate of lime and cement will produce just as good, if not better results than when grinding the hydrate and Portland cement together in a ball mill for one hour, as shown by the special test. It was thought by many that the thorough mixing and grinding together of the hydrated lime and Portland cement would produce a considerably stronger effect, but this appears to be a wrong theory, and the Warner Company states it is gratified to find this so, as it makes the question a comparatively simple one to work out for practical use. The Warner Company presents the following table of the tests:

Tests on "Nazareth" cement and "Limoid" by Booth, Garrett & Blair. These tests one part mixture, two parts sand, to make direct

comparison with Standard Rosendale Cement tests:

	1 1/2 Lbs. 1 part Naz.	1 1/2 Lbs. 1 part Naz.	1 1/2 Lbs. 1 part Naz.	1 1/2 Lbs. 1 part Naz.	1 1/2 Lbs. 1 part Naz.
	74	94	92	122	124
	84	104	102	140	145
7 days....	88	98	140	168	140
	70	100	146	162	148
	92	106	98	116	132
Average....	81	101	119	129	137
	144	128	178	172	158
	128	150	160	180	174
28 days....	138	140	156	162	182
	130	146	180	194	170
	128	154	192	186	162
Average....	134	144	173	179	169
	148	130	194	174	180
	168	172	235	...	166
3 months (88 days)....	140	160	240	188	174
	128	184	214	190	180
	155	124	194	170	170
Average....	148	154	217	181	174
	265	220	284	265	210
	254	240	300	290	240
1 year....	250	224	288	282	230
	222	236	276	270	222
	232	220	294	288	216
Average....	245	228	288	281	224

"Special"—Limoid and Nazareth were ground for one hour in a ball mill.

Tests on Nazareth cement alone, same as used in above mixtures tests:

Seven days neat: 644, 668, 640, 672, 638—average 652.

Seven days one part cement, two sand: 340, 345, 360, 354, 336—average 347.

TRADE LITERATURE.

Westinghouse Induction Motors.

Circular No. 1066 of the Westinghouse Electric & Manufacturing Co. of Pittsburg, Pa., gives particulars regarding the type H induction motor for constant-speed service. A full description, aided by illustrations, is presented.

Wasted Power.

A manufacturer states that you stop leaks in your steam pipes as soon as you know of them, but until pipes and boilers are properly covered they are leaking just as certainly as if there were holes in them. This useless radiation means waste of power. To stop this loss of power, increase the efficiency of the plant and reduce coal bills is advised the use of Asbestos "Fire Felt" Covering. This material is manufactured by the H. W. Johns-Manville Co., which issues leaflet A7, telling all about it. Offices at 100 Liberty street, New York.

Exclusively Tank Manufacturers.

Corrugated galvanized-steel tanks, cisterns and heavy black steel tanks and other similar vessels, made in all sizes, are the exclusive product of the Harry Bros. Co. of Dallas, Texas. This company was established in 1874, and since that year has been manufacturing tanks of all kinds for use by manufacturers, private parties, municipalities, towns, etc. Its plant is equipped with special machinery, and every principle of construction ensuring strength and durability is considered in building the Harry tanks. New catalogue of the Harry products is now ready for inquiries. It gives illustrations and detailed descriptions.

Introduction to Hunt Machinery.

An introduction to the general line of machinery manufactured by the C. W. Hunt Co. has been issued as pamphlet No. 037. Only a portion of Hunt manufactures is illustrated and referred to by description, such equipments being seen as steeples, towers, parabolic boom towers, steam shovels, elevators, mast and gaff fittings, overhead trolleys, coal tubs, contractors' tubs, steam hoisting engines, industrial railways, electric hoisting engines, electric locomotives, etc. The Hunt Company has an extensive plant at West New Brighton, N. Y., and offices at 45 Broadway, New York city. It has had over thirty years' experience in designing and building the machinery it offers.

Stone-Making.

A building material combining the qualities of strength, beauty and durability, readily obtainable in any locality, has long been sought for. From present tendencies in the building trades it is evident that cement stone is to be the ideal substitute. Hollow building stones manufactured from cement are now being used in ever-increasing quantities as people become better acquainted with their superior features. Messrs. K. Dykema & Son of Grand Rapids, Mich., have introduced a system and patent molds for making hollow cement stone. They issue a book giving particulars regarding their machines and processes, and show what

success they have already met with in introducing both their methods and their stone, as they are now supplying the Detroit territory. Send for literature of details.

Wickes Machinery List.

All previous issues of the Wickes Bros. machinery list are superseded by the latest issue of that publication. The new list briefly itemizes a stock of several hundred boilers, engines, pumps, etc., and it is noticed that a large line of contractors' equipment, rolling-mill and iron-working machinery and various other kinds of mechanical equipment is offered. Messrs. Wickes Bros. are very prominent in their specialty, and have large warehouses and plants at Saginaw, Mich.; Pittsburg, Pa., and Jersey City, N. J. Their New York offices are at 95-97 Liberty street; Pittsburg offices at Forty-fifth street and A. V. R. R.; Chicago offices at 1214 Marquette Building.

Wire Glass—What Is It?

Wire glass is either ribbed or rough rolled glass having wire netting imbedded in its center during the process of manufacturing. Skylight glass wired in this manner possesses the combined strength of the wire netting and the glass plate, and the wire being thoroughly covered, is protected from dust or corrosion. Wire glass requires no undernetting as protection from falling fragments. It never breaks; may crack, but cannot fall down. The advantages of such a glass are apparent, and its features as a perfect fire retardant are instantly recognized. The Mississippi Wire Glass Co., 277 Broadway, New York, issues a leaflet of information about wire glass.

Mechanical Machinists' Tools.

One of the many classes of tools in general use is that intended mainly for mechanical machinists. Such tools comprise rules, squares, micrometer callipers, gauges, accurate test tools and various other devices of a kindred nature. For many years the Brown & Sharpe Manufacturing Co. of Providence, R. I., has been one of the best-known manufacturers of such tools, and devices bearing its name are now in use in all parts of the world. This company's catalogue and price-list of mechanical machinists' tools is now ready to be mailed to inquirers. Milling machines, grinding machines, gear-cutting machines, screw machines and cutters are also manufactured at the Brown & Sharpe works.

Monarch Heater and Condenser.

The Monarch Heater and Condenser is offered not only to take the place of open or closed heaters for the purpose of heating water to feed steam boilers, but can be used successfully as a condenser where condensing systems are used for the purpose of forming a vacuum on steam engines. It also acts as a receiver, taking up all drips, etc. Some of the largest manufacturing plants in the South, including the best-known cotton mills and furniture factories, have used the Monarch device to the decided betterment of their steam service. A leaflet detailing the claims made for this device and telling plainly just what it will accomplish is now being distributed, and requests from those who desire information are solicited. Address the Monarch Heating & Condensing Co. of Greensboro, N. C., manufacturer of the device referred to.

Paint Manufacturing Machinery.

The continued and ever-increasing demand for paints of various kinds is steadily causing the establishment of new paint works to compete with the older enterprises. When one is about to build such a plant it is obvious that care and attention must be directed to the selection of the latest and best machinery facilitating the production of paint of a marketable quality at the lowest possible cost. Those who contemplate buying equipment for new plants, or to enlarge old ones, are reminded that Messrs. Kaestner & Co. are specialists in paint equipment. This corporation has at 241 S. Jefferson street, Chicago, one of the most complete machine and foundry plants in the West, one of its special products being paint-grinding and mixing machinery. The last-mentioned apparatus is fully explained and pictured in the Kaestner paint catalogue.

Jobbing Trade and Department Stores

At this time of the year one looks for the appearance of directories of various kinds, especially those of a business character. Merchants, manufacturers and others engaged in active industry frequently find the need of accurate lists of firms in the jobbing trade and of department stores, and a publication meeting this want is now being issued. This book is Dockham's Jobbing

[Continued on Page 437.]

CONSTRUCTION DEPARTMENT.

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY.

The Manufacturers' Record seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

ALABAMA.

Bessemer—Iron Foundry.—Central Foundry Co. will enlarge and improve its plant; present output is forty tons of finished product, which will be increased to eighty-five tons of finished product per day.

Birmingham—Coal and Coke Company.—Chartered: Wind Rock Coal & Coke Co., with capital of \$50,000.

Birmingham—Rolling Mill.—Eclipse Rolling Mill & Manufacturing Co. has been incorporated, with capital of \$50,000, for erecting and operating rolling mill in East Birmingham. William H. Graham is president; Ernest R. Rowley, vice-president; Thomas J. Rowley, general manager, and John J. Wirth, secretary-treasurer.

Demopolis—Sewerage.—J. A. Gaboury of Greenville, Miss., has been awarded contract for construction of proposed sewerage system at Demopolis.

Mobile—Publishing.—Chartered: Farm & Floral World Publishing Co., with capital of \$250, and Mat Toomey, president; George W. Jones, vice-president, and Paul E. Rapier, secretary.

Orrville—Mercantile.—J. E. Dunaway Mercantile Co. has been incorporated, with capital of \$25,000, by J. E. Dunaway and others.

Thorsby—Brick Works.—Thorsby Lumber & Manufacturing Co. will establish brick plant.*

ARKANSAS.

Batesville—Mercantile.—Chartered: Batesville Grocer Co., with capital of \$25,000, by Allan A. Maxfield and others.

Fort Smith—Rim and Bow Company.—Fort Smith Rim & Bow Co. has been incorporated, with capital of \$25,000, and T. H. R. Johnson, president; G. W. Cleveland, vice-president, and H. S. Cutting, secretary.

Fort Smith—Pipe Line.—Mansfield Natural Gas Co. has applied for franchise for piping the streets of Fort Smith for natural gas to be used for heating and illuminating purposes; pipe line will be constructed, if franchise is granted, from Mansfield to Fort Smith, at cost of \$160,000.

Harrison—Cannery.—S. J. & E. L. Nance of Republic, Mo., have made proposition to establish \$3000 cannery at Harrison.

Luxora—Cooperage.—Driver Cooperage Co. has been incorporated, with capital of \$30,000, by John B. Driver, Robert McCreery, W. B. Calhoun and others.

Portland—Lumber Company.—Chartered: D. L. Bain Lumber Co., with capital of \$20,000, by D. L. Bain, R. E. Brown, John Shipps and others.

Russellville—Telephone System.—Russellville Telephone Co. has been incorporated, with capital of \$10,000, and R. M. Drummond, president; Wm. Rowan, vice-president; A. Bernard, secretary, and R. C. Brown, treasurer.

Siloam Springs—Telephone System.—North Arkansas, Southwest Missouri & Indian Territory Telephone Co. has been organized, with W. T. Stahl, Siloam Springs, president; W. T. McCormick, Prairie Grove, Ark., vice-president; K. G. Comfort, Westville, I. T., secretary, and O. H. Reeson, Pineville, Mo., treasurer.

Walnut Ridge—Power-house.—Walnut Ridge Light, Power & Transit Co. has awarded contract for erecting its proposed power-house to W. R. Stewart of Newport, Arkansas.

FLORIDA.

Bartow—Naval Stores.—Callahan, Fort & Boyd Co. has been incorporated, with capital of \$30,000, for manufacture of naval-stores supplies, by J. W. Callahan, J. G. Boyd and J. A. Fort.

Fruitland Park—Saw-mill.—Lake Lumber Co., H. Higginbotham, proprietor, has purchased saw-mill at Bay City of the Ross Lumber Co., and will remove same to Fruitland Park; capacity 10,000 feet per day.

Jacksonville—Mercantile.—Chartered: Brown Produce Co., with capital of \$10,000, by Israel Brown and others.

Jacksonville—Camphor and By-products Factory.—Mellor Manufacturing Co. has been incorporated, with capital of \$30,000, for manufacture of camphor and by-products. M. Temple Taylor is president; A. H. West, vice-president; Thos. A. Davis, secretary-treasurer, and A. Meldrum, general manager. Address the general manager for particulars.

Lake City—Furniture Company.—Robbins-Drew Furniture Co. has been incorporated, with capital of \$5000, by W. A. Drew and others, to deal in furniture.

Liberty County—Timberland Development.—Saxon-Barnes Land & Naval Stores Co. of Tallahassee and Jacksonville, reported lately as having purchased 100,000 acres of timber land in Liberty county and to establish a number of colonies, with necessary mills and machinery to convert the timber into lumber and naval-stores products, has been incorporated, with capital stock of \$100,000, by C. H. Barnes, Ralph Jessup, W. A. Rawls and Geo. W. Saxon, all of Tallahassee.

Tampa—Shipbuilding Plant.—Tampa Steam Ways Co. will rebuild its shipbuilding and repairing plant recently burned, expecting to expend about \$50,000. New structures will include main building 94x47 feet, engine-house 36x22 feet, blacksmith shop 74x40 feet and machine shop 74x50 feet. The plant builds and repairs wooden ships up to 1000 tons capacity; Z. A. Middlebrooks, engineer in charge.*

GEORGIA.

Broxton—Timberland Development.—Lott-Tyler Lumber Co. has purchased for development 5000 additional acres of timber lands.

Broxton—Electric-light Plant.—A. G. Garbutt is securing estimates on erection of electric plant for lighting the city.

Broxton—Crosstie Plant.—Cheatham Bros. of Wadley, Ga., have established crosstie plant at Broxton.

Brunswick—Oil Refinery.—Broxton, Fendig & Co. of Jacksonville, Fla., have organized company for establishment of refinery in Brunswick to refine the crude oils made by extractions from pine stumps.

Columbus—Flour Mill.—R. M. Norman and associates have purchased controlling interest in the Empire Mills Co., and will reorganize, increase capital and generally improve the mills. Electricity will be used as motive power, and new grain elevator is also among the contemplated improvements.

Dublin—Mercantile.—Gibson & Co. and J.

M. Outler will consolidate and incorporate as the Gibson-Outler Company, with capital of \$10,000, and privilege of increasing to \$50,000.

Hogansville—Telephone System.—Gainsboro Telephone Co. of Carrollton, Ga., has purchased and will operate the Hogansville Telephone Co.'s property.

Irwinville—Supply Company.—The Supply Company has been organized, with capital of \$15,000, by J. B. Clements and others.

Jonesboro—Electric-light Plant.—City will erect electric-light plant. Address The Mayor.

Louvale—Saw-mill.—R. T. Shirling will establish saw-mill, as lately reported; capacity 10,000 feet per day.

Lumpkin—Electric-light Plant.—City contemplates installation of electric-lighting system; J. B. Richardson, mayor.

Macon—Sewers.—City has voted issue of \$40,000 of bonds for construction of sewers in Vineville, Huguenin Heights and Pleasant Hill. Address The Mayor.

Macon—Agricultural Implements, etc.—John W. Shinholser, E. P. Willingham and others have incorporated Shinholser & Co., with capital of \$25,000, for dealing in and manufacturing agricultural implements, vehicles, harness, etc.

Milledgeville—Water-power Development.—Oconee Electric Light & Power Co., reported recently as having amended its charter, increasing capital from \$50,000 to \$550,000 for development of water-power of Oconee river to furnish electricity and power for lighting and manufacturing purposes, will develop from 8000 to 10,000 horse-power. Charles F. Howe is consulting engineer.*

Newnan—Backband, etc., Factory.—Black Bros. Co., recently incorporated, will conduct general farmers' supply business and manufacture horse collars, backbands, suspenders, overalls, shirts, etc.; capital \$15,000.

Savannah—Building Materials.—Savannah Lumber Co., reported lately as incorporated by Lawrence McNeil and others with capital of \$50,000, will deal in lumber and building materials.

Savannah—Harbor Improvement.—Government has awarded contract to Simons & Mayrant of Charleston, S. C., at \$32,160 for work in Savannah harbor.

Savannah—Mercantile.—Juchter-Henges Company, with capital of \$10,000, has been incorporated for conducting grocery, etc., by F. W. Henges and others.

Waycross—Supply Company.—W. C. Newell and W. G. Guyton have incorporated the Southern Railroad Supply Co., with capital of \$25,000, for conducting general railroad-supply business.

KENTUCKY.

Ashland—Mining.—Advance Coal & Mining Co. has been incorporated, with capital of \$10,000, by W. L. Watson, F. H. McClung, J. B. Eifort of Ashland and others.

Hardinsburg—Tie Company.—Dean Tie Co. has amended charter, changing name to Ohio Valley Tie Co. and increasing capital from \$12,000 to \$50,000.

Jackson—Electric-light Plant and Water-works.—Jackson Development Co. has been incorporated, with capital of \$25,000, by W. W. Taylor of Welch, W. Va.; C. J. Little and A. H. Patton of Jackson, for construction of electric-light plant and system of water-works.

Lexington—Tobacco Company.—Company reported recently to be organized by V. H. Bohmer of Clarksville, Tenn., for building tobacco warehouse and prizery at Lexington has incorporated as the Burley Loose Tobacco Co., with capital of \$20,000. W. J. Loughbridge of Clarksville, Tenn., is also interested.

Livingston—Coal Mines.—New Livingston Coal Co. has been incorporated, as recently reported, with capital of \$15,000, for developing coal mines; principal feature of the development will be bridge on suspension cables, with span 300 feet long, 100 feet high, approaches 500 feet over Rockcastle river, which bridge will carry gravity incline for coal cars. W. McC. Johnston, general manager, may be addressed.*

Mayfield—Pants Factory.—May Pants Co. has increased capital from \$50,000 to \$150,000.

Nebo—Mining.—Rose Creek Coal & Mining Co. has been incorporated, with capital of \$30,000, by James West, T. W. Blakey and C.

B. Mathews of Hopkinsville, Ky., for development of 500 acres of coal land near Nebo.

Robard—Coal Mine.—H. E. Randolph & Co. of Terre Haute, Ind., have optioned 1500 acres or coal land near Robard, and will open up coal mines at once.

Warsaw—Gas and Oil Company.—Walnut Valley Oil & Gas Co. has increased capital from \$3000 to \$4000.

Winchester—Brick and Stone Works.—Winchester Brick & Granite Co. has been incorporated, with capital of \$30,000, for manufacture of brick and artificial stone. F. H. Dudley is president; J. Hood Smith, vice-president; J. Harry Allen, secretary, and T. G. Barrow, treasurer.

LOUISIANA.

Franklin—Oil Wells.—Houssier-Latreille Oil Co. has been incorporated, with capital stock of \$1,000,000, for extensive development of oil properties in the Jennings and Mamou oil fields. Donaldson Caffrey is president; Eugene Houssier, first vice-president; Arthur Latreille, second vice-president; J. Sully Martel, secretary-treasurer; J. G. Martel, assistant secretary, and Don Caffrey, Jr., general manager.

Jennings—Oil Wells.—Great Western Oil Co., for developing oil wells, has been incorporated, with capital of \$50,000, by George Hathaway, Isaac N. Murray, Henry L. Shultz, Joseph P. Blanck and others.

Lake Arthur—Rice Mill.—Lake Arthur Rice Milling Co. has been organized by electing George Hathaway, president; F. E. Bliss, vice-president; W. B. Conover, secretary, and T. H. Winn, treasurer. Capital is \$50,000, and rice mill of 1200 barrels per day will be erected at once.

New Orleans—Mill Supplies.—Whitney Supply Co., Limited, with capital of \$50,000, has been incorporated for dealing in machinery, mill supplies, etc., by Charles M. Whitney, Thomas Sloc and C. H. Perret.

Plaquemine—Lumber Mills.—Frederick Wilbert, A. T. Gerrans, John Wilbert, M. E. Hebert and others have incorporated the St. Louis Cypress Co., Limited, for manufacture of lumber, development of timber lands, etc.

Rayne—Oil and Gas Wells, etc.—Mutual Oil Co. has been incorporated, with capital of \$100,000, for development of oil and gas wells, etc., by E. Barousse, Edward Daigle, Clay V. Richard, R. C. Webb and others.

MARYLAND.

Baltimore—Milling.—Keystone Milling Co. has been incorporated, with authorized capital of \$5000, by Louis C. Wilcox, Robert C. Ziegler, Newton R. Wilcox and others.

Baltimore—Laundry.—Baltimore Antiseptic Steam Laundry Co. has been incorporated, with capital of \$10,000, by E. John Nichols, Isaac H. Nichols, Lucius C. Flippe, P. Victor Galloway and others.

Baltimore—Flour Company.—Rinehart, Childs & Briggs Co. (established), for dealing in flour, grain, etc., has been incorporated, with capital of \$1000, by William B. Briggs and others.

Baltimore—Candy Factory.—Baltimore Candy Co. will rebuild at once candy factory burned at loss of \$100,000.

Baltimore—Water-power Development.—Anthony N. Brady of New York has acquired a part of the common stock of the United Electric Light & Power Co. of Baltimore and of the stock and other securities of the Mt. Washington Electric Light Co. of Baltimore, and will reorganize both companies and proceed at once to develop the plans for generating current on the Susquehanna river, full details of which have been published previously in these columns. Plans provide for construction of three plants, each of 40,000 horse-power.

Baltimore—Real Estate.—Bolton Real Estate Co., with authorized capital of \$21,000, has been incorporated by Aaron A. Brown, Douglas Cassard, Lester L. Stevens, George C. Morrison and others.

Baltimore—Land Improvement.—Forest Park Land & Improvement Co. has been incorporated, with capital of \$10,000, for dealing in and improving real estate, by Louis J. Roth, Harry C. Kilmer, Aaron J. Simon and others.

Baltimore—Pier and Dock.—Baltimore & Ohio Railroad Co. has purchased additional property at Locust Point at cost of \$10,000, which will be used in connection with construction of dock 150 feet wide and pier 1000 feet in length.

Chesapeake Basket Co.—Basket Factory.—Chesapeake Basket Co. of Salem, N. J., is erecting \$12,000 basket factory at Chesapeake City.

Cockeysville—Marble Quarry.—It is said that the old Holloway marble quarry near Cockeysville will be reopened by company, at the head of which is George Jessup.

Cumberland—Mill Supplies, etc.—Fred C. Dryer Supply Co. has been incorporated, with capital of \$10,000, by Fred C. Dryer, J. Philip Roman, James A. Reid and others, for dealing in railroad, mine, mill and other supplies.*

Finzel—Oil Wells.—Patrick E. Finzel has leased 6000 acres of land, and will bore for oil; company will be organized.

Salisbury—Electric-light Plant.—Company reported lately as being organized by James E. Ellwood and others for erection of electric-light plant will be known as the Salisbury Electric Light Co.

MISSISSIPPI.

Corinth—Machine Shops.—Corinth Engine and Boiler Works has been incorporated, with capital of \$15,000, and privilege of increasing to \$25,000, by J. E. Creary, J. H. Jones, R. M. Weaver and others.

Tchula—Cotton Gin.—Ira Jones is installing four-gin outfit.*

Vicksburg—Locks and Dams.—Capt. C. S. Brownwell, United States engineer in charge of Onatcha river improvements, has received approval of project for constructing locks and dams on the river. Plan is to construct two dams and locks, at an estimated cost of \$430,000. Capt. Horace Marshall, assistant engineer, will have immediate charge of the work. Bids will be asked for at an early date.

Yazoo City—Mercantile.—Chartered: McKee & Bickell Co., with capital of \$5000.

MISSOURI.

Carthage—Building-stone Company.—Carthage Building Stone Co. has increased capital from \$25,000 to \$50,000.

Kansas City—Oil Company.—Atlas Crude Oil Co. of Missouri has been incorporated, with capital of \$200, by B. Howard Smith, C. C. Yost, Fred Wolfman and others.

Kansas City—Ice Factory.—Central Ice Co. has been organized, with capital of \$175,000, for establishment of ice factory with daily capacity of 150 tons; new building 400x160 feet will be erected. It is said that this company will probably absorb the Bear Ice & Fuel Co.

Kansas City—Petroleum Company.—Peru Petroleum Co. and the Spurlock Petroleum Co. have been incorporated, with capital of \$50,000 each, by H. E. West, Alex. Massey, G. M. Canterbury, C. A. Braley and D. W. Longwell.

Rich Hill—Coal Mines.—John M. Heck and J. Elmer Jones have leased and will develop 200 acres of coal land.

St. Louis—Amusement Company.—Rice-Crawford Theater Co. has been incorporated, with capital of \$10,000, for conducting theaters and amusement resorts, by H. E. Rice, C. P. Crawford, J. Iazza and others.

St. Louis—Water Company.—Exposition Water Co. has been incorporated, with capital of \$250,000, by W. C. Stith, F. M. Estes, J. R. Cross and others.

St. Louis—Ice and Cold-storage Company.—Donnewald Ice & Cold Storage Co., with capital of \$15,000, has been incorporated by A. W. Donnewald, F. H. Stanberry, Frederick G. Metzger and others.

St. Louis—Real Estate.—Chartered: Welsels-Gerhart Real Estate Co., with capital of \$2000, by Thos. S. Gerhart, H. R. Welsels and others.

St. Louis—Milling.—Valley Milling Co. has increased capital from \$7500 to \$35,000.

St. Louis—Tea and Coffee Company.—Bodenheimer Coffee & Tea Co., with capital of \$50,000, has been incorporated by Max M. Bodenheimer and others.

St. Louis—Game and Fish Company.—Chartered: Anderson Poultry, Game & Fish Co., with capital of \$10,000, by William K. Anderson and others.

St. Thomas—Trading.—Chartered: S. N. Schell & Sons Trading Co., with capital of \$25,000, by S. N. Schell, Geo. W. Schell and others.

NORTH CAROLINA.

Albemarle—Mining.—Stanly Mining & Realty Co. has been incorporated, with capital of \$50,000, by John Morrow, R. A. Crowell, J. W. Leonard and R. L. Smith.

Asheville—Coupler Factory.—Carolina Coupler Co. has been incorporated, with capital of \$50,000, to manufacture couplers of all

kinds for vehicles, by S. W. Bettle, L. M. Bowne and B. L. Pricot.

Biscoe—Medicine Company.—Pix Linament Co. has been chartered, with capital of \$10,000, by J. W. Messemore, J. E. Kanoy, Manley Leak, J. R. Page, Frank Page and others.

Bryson City—Pump Works.—Bryson City Pump Works Co. has been incorporated, with capital of \$15,000, by J. Schenck, E. J. Wheeler and others.

Cliffside—Cotton Mill.—Cliffside Cotton Mills, reported last week as to enlarge its plant, has no intention of arranging for improvements at present. The mill was built so as to admit of enlargements, and some time in the future extensive improvements will be undertaken.

Durham—Stave and Heading Mill.—A. L. Babcock, Tempest, Va., contemplates establishing stave and heading mill in Durham.*

Goldsboro—Construction Company.—East Carolina Stone & Construction Co. has been incorporated, with capital of \$7500, by J. W. Edwards, W. A. J. Peacock, G. W. Prince, A. T. Griffin and others.

Hendersonville—Light and Power Company.—Hendersonville Light & Power Co. has been incorporated, with capital of \$50,000, by R. M. Oates, M. D. Peden and C. H. Oates.

Hickory—Water-works.—O. Perry Sarle, civil engineer, 146 Westminster street, Providence, R. I., has been appointed engineer for water-works and sewerage system at Hickory, for which \$60,000 in bonds was previously reported as having been issued. Edward W. Shedd will be associated with Mr. Sarle in this work.

Lillington—Live-stock.—Chartered: Salmon Live-Stock Co., with capital of \$10,000.

Southern Pines—Pharmacy.—Chartered: Underwood Pharmacy Co., with authorized capital of \$5000, by J. T. Underwood and others.

Statesville—Mercantile.—J. K. Morrison's Sons have incorporated as the J. K. Morrison's Sons Co., with capital of from \$50,000 to \$100,000.

Statesville—Harness Company.—Craig-Flanigan Harness Co. has been incorporated, with capital of \$100,000, to succeed the Flanigan Harness Co. A. J. R. Craig, D. C. Craig of Gastonia, N. C.; R. L. Flanigan of Statesville and others are the incorporators.

Warsaw—Fruit-package Factory.—Carolina Fruit Package Co. has been incorporated, with capital of \$30,000, for manufacture of crates, baskets, etc., by J. A. Brown, W. R. Newberry, T. B. Pierce, A. F. Johnson and others.

Wilets—Lumber Company.—Dimension Lumber Co., with capital of \$3500, has been incorporated by W. B. Farwell, W. W. Jones of High Point, N. C., and D. T. Knight of Wilets.

Wilmington—Oil Mill.—W. E. Worth is interested in the organization of company which will erect plant for extracting oil from cottonseed meal by a new process; capacity will be fifty tons of meal per day.

SOUTH CAROLINA.

Charleston—Spool and Bobbin Factory.—Anderson Spool & Bobbin Manufacturing Co. will rebuild at once that part of its plant lately reported burned.

Cheraw—Dry-kilns.—Chesterfield Lumber Co. will rebuild dry-kilns lately reported burned; will be 35x80 feet and 25x80 feet, with combined capacity of 150,000 feet of lumber; cost \$3500.*

Clinton—Electric-light Plant.—Thornwell Orphanage will install electric-light plant at Musgrove's mill, on Enoree river, power of which will be transmitted to Clinton to furnish light and power for the Orphanage plant; Rev. W. P. Jacobs, president.

Columbia—Cotton Mill.—W. J. Keenan and J. L. Minnaugh have incorporated the Keenan Yarn Mill to build plant for manufacturing yarns. Capital stock is \$60,000.

Darlington—Clock Company.—Calendar Clock Co., with capital of \$5000, has been incorporated, with J. B. Hudnall, president, and C. O. Cole, secretary.

Dillon—Brick Works.—The Moore Company will overhaul its brickyard.

Fairmont—Cotton Mill.—Tyger Cotton Mills, now operating 8200 spindles and about 200 looms, will increase its capacity 50 per cent.

Hartsville—Supply Company.—Hartsville Supply Co. has been incorporated, with capital of \$10,000, by L. S. Willing, M. Bonnoitt of Darlington, S. C., and W. S. McKinnon of Hartsville.

Lando—Cotton Mill.—Manetta Mills, reported last month as to add machinery, has

contracted for 15,000 spindles additional. New buildings to accommodate this machinery have been about completed.

Latta—Brick Works.—O. C. Fore Ginnery & Manufacturing Co. is installing extra steel brick machine with capacity of 30,000 brick per day, also sander and automatic incut.

Latta—Brick Works.—John B. Moore is organizing company to erect and operate brick works and to erect new plant at Fork Station.

Latta—Saw and Planing Mill.—John L. Dew will erect saw and planing mill.

Manning—Land Improvement, etc.—The Land Improvement & Hardware Co., reported last week as incorporated by A. Levi and others, should have read the Land Improvement & Hardware Investment Co.

Ritter—Cotton Gin.—Sanders & Lemacks will rebuild cotton gin lately burned.*

Roebuck—Cotton Gin.—Roebuck Ginning Co. has been incorporated, with capital of \$2500, by John L. Foster and others.

Spartanburg—Hardware Company.—Spartanburg Hardware Co. has been incorporated, with capital of \$10,000, by H. O. Becham, E. H. Earle and others.

Sumter—Clothing Company.—Chartered: D. J. Chandler Clothing Co., with capital of \$8000, by D. J. and J. H. Chandler.

Warrenville—Hotel Company.—Howland Heights Hotel Co. has been incorporated, with capital of \$200,000, for erection of hotel and for other improvements at Warrenville. Chas. B. Willis of Graniteville, S. C., and Herbert E. Gyles of Aiken, S. C., are incorporators.

TENNESSEE.

Ashland City—Saw and Planing Mill.—C. H. Payne of Sonora, Ky., will establish saw and planing mill at Ashland City.

Blountsville—Mercantile.—Chartered: Huntsman Bros. Co., with capital of \$80,000, by J. N. Huntsman and others.

Bon Air—Lumber Mills.—Eastland Lumber Co. has been incorporated, with capital of \$5000, as was recently reported under Sparta, Tenn.; will erect saw and planing mill for manufacture of rough and dressed lumber. J. L. Dibrell, D. C. Lockwood, M. L. Wilson and others are incorporators.*

Bristol—Ice Plant.—Diamond Ice Co. will bore artesian well and make improvements to its plant.

Chattanooga—Medicine Company.—Chartered: Southern Medicine Co., with capital of \$5000.

Chattanooga—Laundry.—B. G. Brown will establish steam laundry.

Chattanooga—Publishing.—Chartered: Southern Medical Publishing Co., with capital of \$5000, by B. F. Travis, A. N. Sloan, Percy Caldwell and Ed. Watkins.

Chattanooga—Cotton-felt Factory.—Chattanooga Cotton Felt Co. will move into larger quarters and expend \$30,000 in additional machinery and other improvements for increasing capacity.

Chattanooga—Abattoir.—Chattanooga Abattoir Co., reported lately as incorporated with capital of \$10,000, has completed organization, electing J. P. Cameron, president; F. R. Woolford, secretary, and E. P. Jones, vice-president; company will proceed at once with erection of two-story brick building equipped with modern conveniences and appliances for slaughtering cattle; capacity will be 100 head per day.

Jackson—Water-works Improvement.—City will install pump of 6,000,000 gallons per day capacity at water-works; cost \$25,000. Address The Mayor.

Jellico—Coal and Timber-land Development.—J. W. Wiser and A. C. Leibendorfer have purchased and will develop coal and timber lands at Kimberly.

Lafollette—Timber Lands.—W. H. Moseley of Hot Springs, N. C., is negotiating for large tract of timber land near Lafollette for purpose of manufacturing lumber and cross-ties. Mr. Moseley was reported lately, by error, as having purchased 70,000 acres of coal land near Lafollette for development.

Longtown—Cotton Gin.—Longtown Gin Co. has been incorporated, with capital of \$5000, by W. T. Shelton, W. E. McClanahan, C. T. McGraw and others.

Memphis—Real Estate.—L. C. Stacy Co. has been chartered, with capital of \$5000, for conducting real-estate business, by L. C. Stacy, J. E. Hutchinson, Chas. H. Plyer and others.

Morristown—Telephone Company.—Citizens' Telephone Co. has increased capital from \$7000 to \$12,000.

Nashville—Pure-food Company.—Dixie Pure Food Co. has increased capital from \$25,000 to \$50,000 for extending its business.

Nashville—Chemical Company.—Chartered: Rigo Chemical Co., with capital of \$10,000, for manufacturing patent medicines, by Charles M. McCabe, L. G. Durr, R. W. Miller, R. O. McLean and others.

Nashville—Box and Lumber Company.—Standard Lumber & Box Co. has been incorporated, with capital of \$50,000, and has purchased plant of Southern Lumber Co.; will expend \$25,000 on improvements, which are to include saw, planing mill and box factory. J. H. Wiles is president; Geo. H. Cheely, vice-president; Jas. Gleaves, secretary-treasurer, and W. H. Gleaves, general manager.

Rock Bridge—Tobacco Factory.—Wm. Ray will establish tobacco factory.

Springfield—Electric Plant and Water-works.—Springfield Electric Light & Water Co. has applied for 20-year franchise for electric-light plant and water-works.

Summitville—Lime Company.—Summitville Lime Co. has amended charter, changing name to Summitville Lime & Stone Co. and increasing capital from \$10,000 to \$50,000.

Union City—Cooperage.—Union City Cooperage & Lumber Co. has been incorporated, with capital of \$15,000, by George Hardy, Charles Hardy, T. B. Stubbs, R. M. Whipple and others.

TEXAS.

Ballinger—Publishing.—Ledger Publishing Co., with capital of \$5000, has been incorporated by Duncan and Peter E. McGregor, A. W. Sledge and others.

Barker—Rice Cultivation.—Tracy Land & Emigration Co. of Wichita, Kan., has purchased 5000 acres of land in Harris county, near Barker, and will cultivate same in rice.

Beaumont—Development Company.—Black Development Co. has been incorporated, with capital of \$6000, by L. J. Black, C. L. Wallis, John W. Gilbert and others.

Beaumont—Plano Factory.—C. Janke of Galveston, Texas, plano manufacturer, will, it is reported, erect plano factory in Beaumont.

Boxelder—Mercantile.—Chartered: Boxelder Mercantile Co., with capital of \$10,000, by R. H. Allison and others.

Daingerfield—Mercantile.—Chartered: McGee, Evans & Co., with capital of \$10,000, by F. L. McGee and others.

Dallas—Mercantile.—Barron Bros. have increased capital from \$20,000 to \$40,000.

Dallas—Road Improvements.—Dallas county will employ engineer at once to make plans and specifications of a complete system of permanent roads; \$500,000 in bonds was voted for this purpose several months ago. Address County Clerk.

Dallas—Foundry.—Southern Foundry Co. has been incorporated, with capital of \$3000, by J. B. Adoue, C. A. Robertson, S. W. Hardwick and others.

Dallas—Cottonseed Supply Company.—Chartered: Dallas Jobbers' Cottonseed Supply Co., with capital of \$5000.

Dallas—Warehouse Company.—Cottonseed Warehouse Co. has been incorporated, with capital of \$7500, by C. A. Keating, Fred B. Jones, William Robinson, J. C. Duke and others.

El Paso—Improvement Company.—El Paso Improvement Co. has been incorporated, with capital of \$20,000, by J. A. Smith, Seymour Thurmond, Hugh G. Foster and others.

El Paso—Mining Machinery.—Harrell Stamp Mill Co. has been incorporated, with capital of \$50,000, for manufacturing mining machinery, including stamp mills, crushers, etc., by J. J. Harrell, A. W. Gifford, M. R. Roblee and others.

Fayette County—Kaolin Mines.—S. G. Grinsshaw and B. F. King of Houston, Texas; Baltimore, New York and London parties, said to represent a syndicate which controls several million dollars capital, will begin at once the development of the kaolin deposits of Fayette county and later on erect a plant for the manufacture of earthenware.

Houston—Box Factory.—Ed H. Harrell Sash & Door Co. will make extensive improvements to its plant, including installation of machinery for manufacture of boxes.

Houston—Building Material.—Chartered: LeClere-Armstrong Company, with capital of \$10,000, for dealing in building material, by C. B. LeClere of Beaumont, J. Armstrong of Alvin, Texas, and others.

Houston—Soap Works.—Houston Soap Works, with capital of \$4000, has been incorporated by Henry Krichamer, T. F. Maurin, H. H. Frank and others.

Houston—Bakery.—National Biscuit Co., C. H. Taylor, manager, will build addition and install additional machinery for increasing capacity.

Rosebud—Real Estate.—Asbury-Pender

Company, with capital of \$10,000, by V. T. Asbury, W. A. Barclay and others.

San Antonio—Paste Works.—San Antonio Paste Works has increased capital from \$15,000 to \$25,000.

San Marcos—Mercantile.—Chartered: Woodward-Green Company, with capital of \$20,000, by D. J. Woodward and others.

Sherman—Cotton Compress.—Sherman Compress Co. will rebuild at once its plant, reported burned at loss of about \$150,000.

Terrell—Ice Factory.—Terrell Ice Co. has been incorporated, with capital of \$100,000, and will operate the ice factory formerly conducted by Carswell & Whitfield. C. B. Carswell is president and general manager; A. R. Andrews, secretary, and W. P. Allen, treasurer.

Tres Palacios—Rice and Irrigation Company.—Tres Palacios Rice & Irrigation Co. has increased capital from \$50,000 to \$100,000.

Van Aistyne—Ice Factory.—Van Aistyne Ice Factory has increased capital from \$20,000 to \$25,000 for improvements, which include installation of electric plant, etc.

VIRGINIA.

Buchanan—Tin-can Factory.—Buchanan Tin Can Co. is increasing capacity of its plant.

Claremont—Lumber Mill.—W. H. Somers and W. G. Lovell will establish plant for manufacture of headings, lumber, etc.

Graham—Hardware Company.—Chartered: Fowler-Richardson Hardware Co., with capital of \$25,000, by W. E. Fowler and others.

Hampton—Chartered: J. W. Rowe Company, with capital of from \$10,000 to \$50,000, by Geo. W. Rowe and others.

Norfolk-Distributing Company.—Chartered: Southern Distributing Co., with capital of from \$100,000 to \$200,000. E. L. Woodward is president.

Norfolk—Land Development.—Chartered: Southern Land & Development Co., with capital of from \$10,000 to \$50,000, by A. C. Ward (president) and others.

Norfolk—Cotton Mill.—Margolius Cotton Mills Co. has changed name to the Margolius Company and increased capital stock from \$100,000 to \$150,000.

Orange—Flour Mill.—O. H. Lyne has purchased and will operate the Orange Flour Mill.

Richmond—Publishing.—Chartered: Old Dominion Publishing Corporation, with authorized capital of \$3000, by G. H. Bangeman and others.

WEST VIRGINIA.

Belva—Coal Mines, etc.—National Coal & Coke Co. has been incorporated, with capital of \$50,000, by George L. Robertson, Jacob H. Reed, Chas. Jasper and others, all of Mt. Carmel, Pa.

Benwood—Steel Mill.—National Tube Co. will, it is reported, expend \$100,000 on improvements to its Riverside steel mill.

Bluefield—Filters.—Norfolk & Western Railway Co., L. E. Johnson, general manager, Roanoke, Va., will expend \$20,000 in erection of filters along its line through West Virginia.

Charleston—Coal Mines.—Burdett Coal & Land Co. has been incorporated, with capital of \$10,000, for development of coal mines, manufacture of lumber, etc., by C. R. Burdett, W. E. Chilton, T. S. Clark and others.

Fairmont—Publishing.—Fairmont Publishing Co. has been incorporated, with capital of \$50,000, by George M. J. Jacobs, E. A. Billingshew, L. C. Powell and others.

Grafton—Coal Mines.—West Virginia Smokeless Coal & Coke Co. has been incorporated for development of coal mines, manufacture of coke, etc., by J. H. Lawson, W. H. Crafts, S. C. Shue, F. M. Marlott and others, all of Cleveland, Ohio.

Huntington—Woodworking Factory.—J. W. Hambrick, proprietor of the Central City keg factory, has purchased additional property at Central City, and will increase his business facilities by erection of two wood-working factories.

Keyser—Land Improvement.—Keyser Industrial Co. has been incorporated, with capital of \$21,500, for improving and placing on the market thirty acres of land. Jos. Lee Rhodes is president; T. R. Carskadon, vice-president; Chas. W. Hopkins, secretary, and H. L. Arnold, treasurer.

Keyser—Water-works and Street Improvement.—City will vote January 7 on issue of \$10,000 of bonds for improving water-works and streets. Address W. B. Lauek, mayor.

Keyser—Land Improvement.—S. H. Bowman, S. A. Moore and Chas. I. Zirkle of Philip, W. Va., and associates have purchased and will improve tract of land at Keyser.

Williamson—Laundry.—J. M. Williamson will establish steam laundry.*

Mannington—Oil and Gas Company.—Bluegrass Oil & Gas Co., with capital of \$100,000, has been incorporated by C. W. Swisher of Fairmont, W. Va.; John L. Kirkland, Chas. J. Tague, W. S. Ingles of Mannington and others.

Moundsville—Washing Machine, etc., Factory.—Fisher Manufacturing Co., organized for manufacture of washing machines, broom handles, sleds, clothespins, etc., will contract at once for erection of its proposed building, three stories, 48x36 feet; cost \$50,000.*

Parkersburg—Amusement Company.—Beaman Amusement Co. has been incorporated, with capital of \$50,000, by C. F. Beaman, C. J. Reed, John J. Kane and others.

Parkersburg—Oil Company.—Expansion Oil & Gas Co. has increased its capital from \$50,000 to \$100,000.

Parsons—Brick Company.—Parsons Brick Co. has been incorporated, with capital of \$50,000, by A. J. Armstrong of Parsons, R. F. Whitmer, Charles Callender of Philadelphia, Pa., and Martin Lane of Wilmington, Del.

Phillippi—Gas and Oil Company.—Barbour Oil & Gas Co. has been incorporated, with capital of \$10,000, by C. I. Zirkle, A. S. Moore, T. B. Bowman, M. C. Talbot and others.

Salem—Tool Company.—Acme Fishing Tool Co., reported lately as incorporated, is manufacturer of oil-well fishing tools and specialties.*

St. Mary's—Oil and Gas Company.—Meadow Run Oil & Gas Co. has been incorporated, with capital of \$25,000, by John Shonmaker, E. J. Edwards and others.

Welch—Coal Mines.—Columbia Collieries Co. has been incorporated, with capital of \$100,000, for development of coal mines, etc., by George W. Miles, E. P. Rucker and W. W. Hughes of Welch, James J. Gordan of Washington, D. C., and others.

Wellsburg—Glass Works.—Sanitary Cap & Fruit Jar Co., recently reported as incorporated with capital of \$50,000, has completed its organization with S. George, president; T. H. Hammond, vice-president; J. W. Reiser, secretary, and C. R. Windsor, treasurer; company will purchase and operate the Frank Glass Works, the line of manufacture contemplated being a fruit jar with improved and sanitary cap.

OKLAHOMA TERRITORY.

Arlington—Gas, Oil and Coal Development.—Arlington Oil, Gas & Coal Co., with capital of \$25,000, has been incorporated by Ed. Hillman, J. E. Gravitt, R. H. Fairbanks and others.

Enid—Mercantile.—Chartered: Enid Wholesale Grocery Co., with capital of \$100,000, by Geo. H. Burns and others.

Granite—Oil Company.—Stayce Oil Co. has been incorporated, with capital stock of \$500,000, by C. V. Price of Chicago, Ill.; R. J. Stayce, F. C. Stillman, C. H. Meyers of Granite and others.

Guthrie—Mining.—Upper Tanaha Development Co. has been incorporated, with capital stock of \$500,000, to engage in general mining business, by G. V. Pattison of Guthrie, J. Alexander and J. E. Nicholson of San Francisco.

Guthrie—Mining.—Telluride United States Mining Co., with capitalization of \$1,000,000, has been incorporated by C. V. Pattison, A. L. Homrighouse of Guthrie, Daniel G. Thomas, C. J. Bishop, C. W. Adams of Chicago, Ill., and others.

Hobart—Water-works System.—City will appropriate \$17,500 for construction of system of water-works. Address The Mayor.

Lawton—Mining.—Klamiechi Gulch Mining Co. has been incorporated, with capital stock of \$1,500,000, by Thomas C. Boyd of Washington, D. C.; W. D. Earl, O. R. Burnham, Alvin Campbell, William Skinner of Lawton and others.

Lawton—Flour Mill.—Arthur Adams of Luther, O. T., and associates will erect 200-barrel flour mill at Lawton.

Newkirk.—Newkirk Oil Co. has been incorporated, with capital of \$35,000, by C. A. Johnson, J. S. Thomas, A. B. Williams and others.

Oklahoma City—Oil, Gas and Coal Development.—Pittsburg (Pa.) parties may consolidate with the Oklahoma Gas, Oil, Coal & Water Co. in development of mineral, oil and gas properties near Oklahoma.

Pawnee—Mining.—Homes Big Four Mining Co. has been incorporated, with capital stock of \$500,000, for development of mineral lands. J. D. Shepard is president; M. M. Holmes, vice president; Frank Hudson, secretary, and O. M. Lancaster, treasurer.

Roosevelt—Wedge Company.—Entering

Wedge Co. has been incorporated, with capitalization of \$1,000,000, by A. F. Schwartz, J. B. Lenertz, E. H. Davenport of Granite, O. T.; J. D. Hutton of Roosevelt and others.

Roosevelt—Gold Mines.—Lightning Gulch Mining Co. has been incorporated, as recently reported, with capital stock of \$1,000,000, for development of gold-bearing properties. E. M. Tucker of Roosevelt and Dallas, Texas, is engineer, and Charles Glover of Roosevelt, architect.*

Wheeling—Mining, etc.—Wheeling Townsite, Mining & Investment Co. has been incorporated, with capital of \$40,000, by W. E. Welch and George Ferguson of Lawton, O. T.; Philip Meyer and L. A. Green of Wheeling.

BURNED.

Baltimore, Md.—H. H. Babcock Company's carriage factory damaged to extent of \$25,000.

Baltimore, Md.—Gans Bros.' umbrella factory; estimated loss \$125,000.

Bennettstown, Ky.—G. W. Feise's saw-mill; loss \$1000.

Bowling Green, Ky.—Kentucky Tobacco Co.'s plant; estimated loss \$6000.

Brent, Ga.—John M. Maddox's cotton gin, valued at \$3500.

Burford, Ga.—Bona Allen's tannery and collar factory, valued at \$100,000.

Dallas, Texas.—White & Co.'s ginnery; loss estimated at \$20,000.

Dublin, Ga.—B. B. Linder's cotton gin, valued at \$1700.

Columbus, Miss.—Refuge Cotton-Oil Mill; estimated loss \$2000.

Glasgow, Ky.—Joseph Newman's flour mill; loss about \$6000.

High Point, N. C.—Globe Home Furniture Co.'s furniture factory damaged to extent of \$35,000.

High Point, N. C.—Shuttle and bobbin factory of J. Elwood Cox damaged.

Houston, Texas.—Henk & Pillote's sugar mill and warehouse, valued at \$50,000.

Karnes City, Texas.—Peter Weir & Co.'s cotton gin; estimated loss \$5000.

Lake Providence, La.—Gin of Providence Gin & Improvement Co., Limited; loss about \$10,000.

Lampasas, Texas.—Mrs. Barnes' cotton gin, valued at \$9000.

Levon, Fla.—West Bros.' saw-mill.

Liberty Hill, Texas.—Liberty Hill Normal and Business College; loss about \$9000.

Louisville, Ky.—Defiance Clothing Co.'s factory, valued at \$60,000.

McKenney, Va.—McKenney Manufacturing Co.'s lumber mills.

Petersburg, Tenn.—R. E. & E. W. Welch's saw-mill.

Rome, Ga.—Floyd Cotton Mills; loss reported at \$100,000.

Strouds, Ga.—W. H. Parker's cotton gin; loss about \$2500.

Sulphur Springs, Texas.—Seedhouse of Texas Cotton Produce Co.; estimated loss \$10,000.

Summerfield, Fla.—West Lumber Mill, valued at \$50,000.

Thomaston, Ga.—King Bros.' ginnery; loss \$500.

BUILDING NOTES.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Ada, I. T.—School.—School building of brick and to cost \$9000 will be erected. Address The Mayor.

Alvarado, Texas.—Warehouse.—Planters' Compress Co. will rebuild cotton warehouse lately burned; building will be 30x100 feet and cost \$2000. H. H. Freeman is architect.

Anson, Texas.—Jail.—John B. Thomas, county judge of Jones county, Anson, Texas, will open bids December 21 for erection of jail previously mentioned; cost not less than \$10,000 nor more than \$15,000 complete. Bids must be accompanied by certified check for \$500. Usual rights reserved.

Asheville, N. C.—Office Building.—Asheville Office Building Co. has had plans made by Kenneth McDonald and J. F. Shebleasy for erection of its proposed \$100,000 office building. Bids will be asked later on.

Atlanta, Ga.—Office Building.—Equitable Loan & Security Co. has awarded contract to Griffin & Fitts for erection of its proposed two-story office building, to be of brick, 150x100 feet, and cost \$30,000. Fitzhugh Knox prepared the plans.

Baltimore, Md.—Hospital.—Joseph Schamberger has contract at \$19,320 for erecting the additional hospital at Bayview Asylum, recently reported.

Blountstown, Fla.—Courthouse.—E. G. Mack, chairman board county commissioners, will open bids January 6 for construction and completion of brick courthouse for Calhoun county. Plans and specifications are on file in office of J. I. Hentz, clerk circuit court. Each bid must be accompanied by certified check for \$250; \$5000 bond required and usual rights reserved.

Canton, Miss.—Clerk's Office.—Board of Supervisors of Madison county has awarded contract to Hull Bros. for building new \$4800 chancery clerk's office.

Chattanooga, Tenn.—Apartment-house.—Adams & Rearden have completed plans for a five-story apartment-house to cost \$50,000. Address for particulars Olmstead & Brown.

Dallas, Texas.—Church.—City Park Presbyterian Church, Rev. W. L. Downing, pastor, will erect new edifice.

Dublin, Ga.—Church.—Baptist congregation is having plans made by Alexander Blair for erection of \$15,000 edifice. Address The Pastor.

Fayetteville, Ark.—Bank Building.—Washington County Bank will erect \$10,000 building; Albert Trent, cashier.

Fayetteville, Ark.—Church.—Cumberland Presbyterian congregation will erect \$15,000 edifice; Rev. R. Thomsen, pastor.

Fayetteville, Ark.—Courthouse.—Contract will be awarded later on for erection of \$75,000 courthouse; Willard Berry, county judge.

Florence, Ala.—Store Building.—F. M. Perry will erect two-story store building.

Fort Brown, Texas.—Gymnasium, etc.—T. E. True, C. Q. M., San Antonio, Texas, or quartermaster, Fort Brown, Texas, will receive proposals in triplicate until January 8, 1904, for construction of frame gymnasium and post exchange building at Fort Brown. Information furnished on application. Usual rights reserved.

Fort Fremont, S. C.—Hospital.—Quartermaster, Fort Fremont, will receive proposals in triplicate until January 14 for erecting brick hospital building. Information furnished on application. United States reserves usual rights.

Gadsden, Ala.—Stores Building.—McCarver Bros. will erect three two-story brick store buildings.

Harriman, Tenn.—Hotel.—H. M. Winslow is interested in the erection of a three-story brick hotel to cost \$25,000.

Jacksonville, Fla.—Residence.—A. Sabel has awarded contract to J. H. Boden for erection of his stone veneer residence.

Kansas City, Mo.—Postoffice and Court-house Extension.—James Knox Taylor, supervising architect, Treasury Department, Washington, D. C., will open bids January 8, 1904, for construction (except heating apparatus, electric wiring and conduits) of the extension to United States postoffice and courthouse at Kansas City, in accordance with plans and specifications, copies of which may be had at office of supervising architect or at office of custodian at Kansas City.

Kansas City, Mo.—Theater.—Orpheum Circuit Co., M. Meyerfield, Jr., president, will expend \$30,000 in improving its theater.

Kansas City, Mo.—Apartment-house.—Frederick C. Gunn has prepared plans for three-story brick and stone apartment-house to be erected by C. W. Dunlop of New York at cost of \$30,000.

Kansas City, Mo.—Apartment-house.—William A. Cobb will erect four-story brick apartment-house to cost \$40,000.

Knoxville, Tenn.—Office Building.—H. A. Jams will erect business and office building.

La Grange, Ga.—Courthouse.—Board of county commissioners of Troup county, Georgia, will open bids January 7 for furnishing material and labor necessary for completion of new courthouse at La Grange in accordance with plans and specifications prepared by Andrew J. Bryan & Co., New Orleans, La., which are on file in office of the board. Certified check for 25 per cent. of amount of bid must accompany each proposal. Bond required and usual rights reserved.

Little Rock, Ark.—Federal Building.—F. W. Gibb has completed plans for proposed \$150,000 improvements to federal building at Little Rock; plans provide for wing seventy-five feet long on each side of present building east and west, three stories high.

Logan, W. Va.—Hotel.—Company will be organized for erection of \$50,000 hotel. A Mrs. Nighbert is said to be interested.

Macon, Ga.—Auditorium.—City has voted issue of \$20,000 for building proposed auditorium. Address The Mayor.

Macon, Ga.—Church.—South Macon Methodist congregation is having plans made for \$10,000 structure. Address The Pastor.

Marion, Va.—Station.—Norfolk & Western Railway Co., Chas. Churchill, chief engineer, Roanoke, Va., will erect stone and brick passenger station at Marion 25x128 feet; not yet ready to let work to contract.

Moundsville, W. Va.—Opera-house.—T. P. Walker is interested in erection of opera-house.

Newnan, Ga.—Courthouse.—Bids will be asked for new courthouse for Coweta county. W. L. Stallings, clerk board of commissioners, Newnan, or J. W. Golucke & Co., architects, Atlanta, Ga., may be addressed.

Newnan, Ga.—Hotel.—Newnan Improvement & Investment Co., previously reported incorporated for dealing in and improving real estate, will erect \$10,000 hotel. Address R. H. Hardaway.

New Orleans, La.—Home.—J. Plattsmier has contract at \$6000 for erection of the proposed Bachelors' Home.

New Orleans, La.—Dwellings.—Plans have been prepared and contracts will be awarded at once for erection of the following dwellings: W. P. Brown, stone dwelling to cost \$175,000; E. B. Kruttschnitt, \$15,000 brick; E. Perin, \$9000 brick, and E. Seiblemann, \$10,000 brick.

Norfolk, Va.—Apartment-house.—Ghent Apartment Corporation, formed for erection of the proposed Vendome apartment-house, previously reported, has completed its organization, electing John Kevan Peebles (who prepared the plans), president; Frank W. McCullough, vice-president, and Robert A. Wainwright, secretary-treasurer. Capital is to be not less than \$10,000 nor more than \$50,000. Structure will be four stories, of brick, with stone trimming.

Pulaski, Va.—Station.—Norfolk & Western Railway Co., Chas. Churchill, chief engineer, Roanoke, Va., has recently contracted with John P. Pettyjohn & Co. of Lynchburg, Va., for 40-foot extension to stone passenger station at Pulaski.

Richmond, Va.—Warehouse.—Stephen Putney Shoe Co. has purchased two acres of ground as site for proposed warehouse, work on erection of which will be commenced at once.

Russell, Ky.—Depot.—Chesapeake & Ohio Railway, C. E. Doyle, general manager, Richmond, Va., will erect new depot at Russell.

Shawnee, O. T.—Hotel.—Reebee & Ryan have awarded contract for erection of two-story addition and other improvements to the Rurt Hotel.

St. Joseph, Mo.—Auditorium.—St. Joseph Auditorium Co., which will erect auditorium, has increased capital to \$100,000.

St. Louis, Mo.—Factory Building.—Maloney Electric Co. is erecting three-story factory building 56x127 feet at cost of \$30,000.

St. Louis, Mo.—Building.—Thos. Ryan, chairman Alaska Exhibit Commission, Department of the Interior, Washington, D. C., will receive sealed proposals in duplicate until December 22 for construction of the Alaska exhibit building on exposition grounds at St. Louis. Specifications and plans may be seen at Room 213, Administration Building, on World's Fair Grounds, St. Louis, Mo. Each bid must be accompanied by certified check for 5 per cent. of amount of bid. Bond required and usual rights reserved.

St. Louis, Mo.—Buildings.—C. W. Pomeroy has prepared plans for three two-story and flats buildings for W. A. Rutledge Realty Co., 1005 Chestnut street; also for two-story flats building for J. H. Kinsey, for two-story flats building for O. C. Backer and for two-story flats building for a Mr. Taylor, 915 Chestnut street. M. T. O. Allard has made plans for two-story store and flats for P. Murkiff, 4975 Easton avenue; cost \$5000. Aug. C. Wilmanns has prepared plans for remodeling building at cost of \$5000.

Talladega, Ala.—School.—City has issued \$10,000 of bonds for erecting brick and stone school building. Address The Mayor.

Texarkana, Texas.—Business Building.—E. W. Frost and others have formed company for erection of five-story steel office building.

Thurmond, W. Va.—Depots.—Chesapeake & Ohio Railway, C. E. Doyle, general manager, Richmond, Va., will build freight and passenger depots at Thurmond to replace ones recently burned.

Valdosta, Ga.—Courthouse.—Commissioners of roads and revenues for Lowndes county, T. S. McKee, chairman; R. T. Myddelton, clerk, will receive sealed proposals until February 15, 1904, for erection of new county courthouse in accordance with plans and specifications prepared by Frank P. Milburn of Columbia, S. C., and which are on

file at office of the clerk of the board at Valdosta and office of the architect. Building will be three stories, 72x100 feet, with basement, of granite, brick, stone, terra-cotta, steel, iron, slate or tiling, etc. Certified check for \$3000 must accompany each bid. Usual rights reserved.

Washington, D. C.—W. J. Palmer, 523 Ninth street, will prepare plans for temple for National Spiritualists, to be of white stone and brick, and cost \$100,000.

Washington, D. C.—Hotel.—Ralf S. Townsend, 21 E. Nineteenth street, New York, N. Y., is preparing plans for proposed 10-story hotel for Thos. S. Walsh.

Waynesville, N. C.—Hotel.—J. B. Stewart of Huntington, W. Va., has plans for three-story hotel, of brick, 60x90 feet, for Mrs. L. W. Knight, Waynesville.

Whitney, Texas.—School.—F. A. Faulkner, Whitney, Texas, will open bids December 21 for erection of brick school building. Bids must be accompanied by certified check for \$500. Plans and specifications at office of Glenn Allen, architect, Waco, Texas, or at Whitney, Texas. Usual rights reserved.

Williamsport, Md.—Temple.—Masonic fraternity of Williamsport will erect three-story brick building 40x100 feet.

RAILROAD CONSTRUCTION.

Railways.

Albany, Mo.—Wallace Hubbard is reported interested in a plan to build an electric railway from Denver to Osborne, fifty miles.

Austed, W. Va.—The Deepwater Railroad Co. will, it is reported, immediately begin construction on a further extension of thirty-one miles through lands of the Pocahontas Coal & Coke Co. W. N. Page is chief engineer.

Ardmore, I. T.—Grading is reported begun on the Colorado, Oklahoma & Texas Railway at Duncan and Lawton. The line proposes to build from Denison, Texas, to Pueblo, Col.

Birmingham, Ala.—Reported that the Birmingham Belt Line will build an extension about seven miles long in the vicinity of North Birmingham. George H. Clark is general manager.

Birmingham, Ala.—The Birmingham & Lineville Railroad Co. has elected officers and directors as follows: R. H. Pearson, president; John S. Jemison, vice-president; R. L. Ivey, secretary and treasurer; Robert Jemison, S. E. Thompson, W. J. Prowell and Vassar L. Allen, the latter being named as general counsel. The road is to be built between Birmingham and Lineville, Ala.

Brandywine, Md.—Senator Gorman has introduced a bill in Congress to authorize the Washington, Chesapeake & Potomac Railroad to extend its tracks into the District of Columbia. Henry W. Watson of Philadelphia is president.

Buena Vista, Rockbridge County, Va.—The Buena Vista Extract Co. is reported to have purchased the Crabtree Falls timber tract in Nelson county, and will, it is stated, build a railroad to connect with the Norfolk & Western. Mr. Oma Carr, manager of the Extract Company, writes the Manufacturers' Record that the road is a narrow-gauge line, but is a purely private enterprise, and construction has been deferred for some months.

Chicago, Ill.—The Rock Island system will, it is reported, build its own line between Kansas City, Mo., and Leavenworth, Kan., twenty-six miles. W. L. Darling is chief engineer.

Columbus, Ga.—Harth & Garren have, it is reported, been awarded the contract to complete the Union & Glen Springs Electric Railway from Union to Buffalo Cotton Mills.

Dallas, Texas.—The Texas, New Mexico & Western Railway Co. has organized by electing E. P. Spears as president and general manager; Charles Steinmann as vice-president, and M. J. Healy, general superintendent, of construction. President Healy is reported as saying that construction will begin soon after the holidays.

Dudley's Mill, Ala.—H. R. Dudley's Railroad is now sixteen miles long, and J. C. Lamb is making improvements to the track, which is standard gauge.

Durham, N. C.—Reported that a syndicate has been formed to build a railroad from East Durham to Haywood, on the Seaboard Air Line, about twenty-five miles south. The route would be along New Hope creek. The line will open up a timber country.

Enid, O. T.—Reported that the Denver, Enid & Gulf Railroad Co. is negotiating for an extension from Guthrie to Coalgate, I. T. E. L. Peckham is vice-president and general manager.

Fairmont, W. Va.—The Fairmont & Clarks-

burg Traction Co. will, it is reported, begin extensive construction next spring, completing the Salem line and starting another line out towards Bridgeport. The road from Adamston may be extended towards Fairmont.

Fort Smith, Ark.—It is reported from Guthrie, O. T., that the Fort Smith & Western Railway will continue its line from Guthrie west via Kingfisher towards Taloga and Grand, about 130 miles. H. A. Schwanecke is chief engineer.

Fredericksburg, Texas.—Alfred Vanderstucken of Fredericksburg and L. Hagen of Gillespie county are reported interested in a plan to build a standard-gauge electric railway for the purpose of connecting Fredericksburg with the San Antonio & Aransas Pass Railway at Waring, twenty-five miles southeast. Rights of way are reported to have been secured, and an old roadbed will, it is stated, be used.

Hattiesburg, Miss.—The Pearl & Leaf River Railroad has applied for permission to extend its line from Hattiesburg southeast to Scranton, Miss., on the Gulf, about eighty miles. W. A. Stevenson is general manager.

Houston, Texas.—L. A. Daffan, superintendent of the Houston & Texas Central Railway, is quoted as saying that construction of the new terminals in East Dallas will be started immediately.

Houston, Texas.—The Houston, Beaumont & Northern Railroad Co.'s charter, a Frisco plan, has been approved for a line from Houston northeast to a point on the Sabine river, fifteen miles southeast of Newton, Texas, a total distance of about 140 miles. It will also extend into Louisiana to connect with the Frisco line to New Orleans. The directors are W. H. Lyford, general counsel of the Frisco; C. W. Hillard of New York, controller; W. C. Preston of Fort Worth, general freight agent of the Fort Worth & Rio Grande, a Frisco property; John H. Kirby of Houston, president of the Kirby Lumber Co., in which the Frisco is interested; W. C. Connor of Houston, commercial agent of the Frisco; B. F. Berger, Joseph Eagle, F. A. Reicheardt, S. A. McNeely and F. M. Aldridge, all of Houston.

Huntingdon, Tenn.—Reported that residents of Huntingdon, Milan, Trenton and Jackson propose to build an electric railway connecting those places. It will be about fifty miles long. E. G. Connette, formerly general manager of the Nashville Railway, is reported to be making an estimate as to the cost of construction.

Jackson, Tenn.—The Jackson & Kansas City Railroad Co. has, it is reported, received its charter, and it is stated that rights of way will be secured immediately by S. H. Wallace and James E. Pope.

Little Rock, Ark.—Reported that the Choctaw, Oklahoma & Gulf Railroad will extend the Searcy & Des Arc Railway from Searcy to Anber, Ark., forty-two miles, and also from Des Arc to Arkansas City, 108 miles. J. M. Stark is chief assistant engineer at Little Rock.

Mena, Ark.—Curtis Wright, president of the Southwestern Slate & Manufacturing Co., is reported interested in a plan to build a railroad from Mena into Montgomery county to develop slate quarries.

Memphis, Tenn.—Lewis L. Proctor is consulting engineer and J. A. Omberg, Jr., chief engineer of the Shelby County Traction Co., which is preparing to survey the line for an electric railway from Memphis to Collierville. The road will run along the pike, except for deviations, one near Ridgeway and another near Forest Hill, to avoid heavy grades.

Memphis, Tenn.—The Illinois Central's new freight yards at Nonconah creek, south of Memphis, are reported complete for half of their capacity, which is 2000 cars. They will be fully finished in two or three weeks.

Memphis, Tenn.—The Shelby County Traction Co. has been petitioned to build an electric railway from Dyersburg to Brownsville, thirty-two miles, free rights of way and a cash subsidy being offered. T. J. Latham is president of the company.

Memphis, Tenn.—Seely Dunn, general manager of the proposed Memphis & Gulf Railroad, has, it is stated, received notice that the Pensacola city council has granted the company a franchise and also an extensive water frontage.

Monroe, La.—A citizens' meeting has adopted resolutions to guarantee the proposed Mississippi, Louisiana & Arkansas Railroad a five-mill tax for ten years, amounting to about \$150,000, and also a cash bonus. This was done after a letter had been read from Arthur D. Ritchie, president of the projected line, which is to extend from Mobile, Ala., to Guthrie, O. T. The proposed Monroe & Little Rock Railroad Co.,

of which E. T. Lamkin is attorney, also asks for a five-mill tax, and it is decided to petition the city council for an election on January 19 to vote on the proposition.

Morehouse, Mo.—W. H. Harrison, vice-president and treasurer of the Himmelfinger-Harrison Lumber Co., writes the Manufacturers' Record confirming the report that the Morehouse & Southwestern Railroad has been incorporated to build a line twenty-five miles long from Morehouse to Malden, but says that there will be no further progress until financial conditions are settled.

Nashville, Tenn.—F. W. Warren of New York is conducting the survey for the proposed Columbia, Nashville & Gallatin Railway. Grading is reported to have begun.

Nashville, Tenn.—Reported that a track will be built from the county asylum to the Tennessee Central Railroad, half a mile. W. M. Pollard and others are interested.

New Berne, N. C.—Henry R. Bryan, vice-president of the Pamlico, Oriental & Western Railway, is quoted as saying that the grade is complete and track laid from the junction of the Atlantic & North Carolina Railroad to the Neuse river. The right of way is being cleared on the other side of the river towards Oriental via Bayboro.

New York, N. Y.—A. C. Wilcox, 55 Liberty street, vice-president of the proposed Fayetteville & Albemarle Railroad in North Carolina, informs the Manufacturers' Record that arrangements are now being made which he hopes will result in having the railroad completed eighty miles within the next year.

Oklahoma City, O. T.—The Missouri, Kansas & Oklahoma Railroad Co. has been chartered for the purpose, it is stated, of consolidating the Missouri, Kansas & Oklahoma and the Texas & Oklahoma, with F. N. Finney as president. The incorporators are F. N. Finney of Milwaukee, S. H. Alline of New York city, C. G. Henge of Southampton, N. Y.; Horace Speed of Guthrie and John Edmunds of Oklahoma City.

Palestine, Texas.—It is reported from Beaumont that the International & Great Northern Railroad will shortly begin construction on its proposed extension to that place. J. D. Trammell is chief engineer.

Perry, O. T.—The Wichita, Oklahoma & Indian Territory Railroad Co. has been chartered to build a line from Wichita, Kan., through Oklahoma and the Indian Territory to Fort Smith, Ark., about 200 miles. The incorporators are J. P. Woolsey, C. D. Jensen of Perry, H. B. Bullen, J. B. Stater and W. E. Hodges of Stillwater, J. H. Decker and J. H. Gentry of Pond Creek.

Pond Creek, O. T.—Reported that the Dominion & Gulf Railroad, chartered seven years ago, will at last be built. It is to run through the Crooked Creek valley in this, Grant county, and is to be 250 miles long, running also through Garfield, Kingfisher, Logan, Oklahoma, Kay, Noble, Payne, Pawnee, Lincoln and Pottawatomie counties; also through the Seminole, Cherokee and Creek Nations, in the Indian Territory, to Denison, Texas.

Port Arthur, Texas.—Reported that John W. Gates of New York proposes to build an electric railway from Port Arthur to Taylor's bayou, and that a stock company is being organized to carry out the plan. G. W. Meeker, president of the Beaumont & Sour Lake Construction Co., is quoted as saying that George M. Craig of Port Arthur is interested with Mr. Gates in the plan, and that the road will run from Port Arthur to the docks, about three miles.

Ravenden Springs, Ark.—R. D. Welch, president and general manager, writes the Manufacturers' Record saying that the North & South Arkansas Railroad Co. contemplates building a standard-gauge line from Ravenden Station, on the Frisco Railroad in Lawrence county, Arkansas, due north to the Missouri State line, twenty miles, and south of Ravenden to Sulphur, twelve miles. Ten miles of the grading from Ravenden to Ravenden Springs have been put under contract. J. B. Polley is engineer in charge.

Rogers, Ark.—Concerning the report that he is interested in an electric railway plan, Judge Edgar Wallace Conable informs the Manufacturers' Record that such rumors are premature, and that he will do nothing along that line before next season.

Savannah, Ga.—Reported that a railroad will be built from Elberton, Ga., to Clio, Ga., about 140 miles, connecting the Atlanta line of the Seaboard with the line entering Savannah. Surveys are reported to have been made. Residents of Augusta and other places on the route are said to be interested.

Savannah, Ga.—Reported that the Georgia, Florida & Alabama Railway Co. will build an extension from Cuthbert to Columbus,

about fifty miles. J. P. Williams is president. It is also announced that the Georgia, Florida & Alabama has closed a deal for the purchase of the Carrabelle, Tallahassee & Georgia Railroad, fifty miles long, from Carrabelle, Fla., to Tallahassee, Fla.

Savannah, Ga.—Henry M. Steele, chief engineer, denies the press report that the Central of Georgia Railway will build a line from Andalusia, Ala., to Pensacola, Fla. It is rumored that there will be built a link from Andalusia, Ala., southwest to Cora, Fla., to connect with the Pensacola & Andalusia Railroad of the Skinner Manufacturing Co., recently reported purchased by the International Land & Harbor Co., which, it is stated, will do the necessary construction. Plans are also under way for a line from Pensacola to Mobile, Ala., about sixty miles.

St. Albans, W. Va.—The Coal River & Western Railroad has, it is stated, completed thirteen miles of line from St. Albans to the forks of Coal river. Charles K. McDermott is general superintendent.

St. Louis, Mo.—It is announced that the Terminal Railroad Association of St. Louis has arranged to obtain from the First National Bank of New York a loan of \$4,500,000 for the purpose of continuing its improvements.

St. Louis, Mo.—Announcement is made that the Memphis, Helena & Louisiana Railroad (the Missouri Pacific's New Orleans extension) has been opened from Clayton, La., the junction with the New Orleans & Northwestern, north to Lake Providence, La., to which point the line was opened from Haley, Ark., south last summer.

Summerville, S. C.—The route of the proposed Mt. Pleasant & Georgetown Railway is from Mt. Pleasant, near the ferry of the Charleston Consolidated Railway, northwest via McClellanville to Georgetown, S. C., about sixty-five miles. B. Parker Miller of Summerville is president.

Street Railways.

Birmingham, Ala.—The Birmingham Railway, Light & Power Co. will, it is reported, extend its Idlewild line north along Twelfth avenue from Twenty-sixth street to Thirty-second street.

Columbia, S. C.—The Columbia Electric Street Railway, Light & Power Co. will, it is reported, make extensive improvements. E. B. Clark is general manager.

Cumberland, Md.—The Cumberland Electric Railway Co. is reported to have plans for an extension.

Durham, N. C.—Reported that the Durham Traction Co. will build an extension to Chapel Hill. R. H. Wright is president.

Fort Worth, Texas.—Samuel Rosen has begun the construction of a street railway on Main street to North Fort Worth.

Mobile, Ala.—The Mobile Light & Railroad Co. will, it is reported, build two and one-half miles of suburban line.

Oklahoma City, O. T.—John W. Shartell will, it is reported, resume construction on the Guthrie Street Railway about January 1.

Rome, Ga.—Work has been resumed on the extension of the City Electric Railway to Lindale. It is also proposed to put down a double track on Broad street from Second to Fifth avenue. C. N. Fuller has charge of construction.

Shawnee, O. T.—The Shawnee Traction Co., recently incorporated, has elected officers as follows: D. J. McCann, president; H. G. Beard, vice-president; J. J. Henry, treasurer; John Sibley, secretary, and C. E. Jackson, local secretary. J. H. McCowan and James Lynch of Chicago are reported to have the construction contract.

Shawnee, O. T.—The Shawnee Traction Co. and the Shawnee Light & Power Co. have been granted franchises in Tecumseh, and it is proposed to build a line four miles long connecting the two towns.

Suiter, S. C.—The city council has granted a street-railway franchise to D. A. Minor, C. W. Wheeler, J. M. Lawrence and L. D. Jennings.

Are You Up a Tree?

Metaphorically speaking, one is "up a tree" when wanting certain electrical equipment and supplies and does not quite know just what is wanted or where to buy to the best advantage and obtain immediate shipments. Are you up a tree? If so, you are invited to write the Ewing-Merkle Electric Co. of St. Louis, Mo. This company issues a card showing some one "up a tree," incidentally explains the picture and tells about the big Ewing-Merkle establishment for supplying promptly all kinds of electrical equipment and supplies. "Everbest" is the trade-mark of the company, and it is known in all parts of the country.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Adding Machines.—W. A. Eudy, cashier, Commercial Bank, Chester, S. C., wants addresses of parties selling adding machines.

Air Compressor.—See "Woodworking Machinery."

Band Saw.—Poag Ferguson Machine Co., Lancaster, S. C., will want 36-inch band saw.

Barrels.—Jas. L. Ferebee, Pittsboro, N. C., wants prices quoted on 30, 40, 60 and 60-gallon barrels for shipping pickles in.

Beacons.—Capt. W. E. Craigbill, corps of engineers, United States army, office light-house engineer, Mobile, Ala., will open bids January 7, 1904, for furnishing all material and labor necessary for constructing and erecting beacons to mark the dredged channel leading up to Gulfport, Miss., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application.

Boiler.—See "Saw-mill."

Boiler.—Central Phosphate Co., Newberry, Fla., wants to purchase second-hand 80 to 100-horse-power portable boiler. State particulars and price f. o. b. Clark, Fla.

Boiler Builders.—Columbia Machine and Iron Works, Columbia, S. C., wants to correspond with parties capable of building boilers.

Boilers.—See "Woodworking Machinery."

Boilers.—See "Engines."

Boilers.—See "Canning Machinery."

Boilers.—See "Drilling Equipment."

Boilers.—See "Wood Distillation."

Boilers.—P. O. Box 175, Baltimore, Md., wants several second-hand steam or hot-water-heating boilers.

Boilers.—See "Saw-mill."

Boilers.—See "Water-works Equipment."

Boilers.—See "Laundry Equipment."

Box-factory Equipment.—D. P. Jones, 630 South Hull street, Montgomery, Ala., wants catalogues and price-list of folding-box machines and full information regarding equipment for small box factory.

Brick Machinery.—Thorsby Lumber & Manufacturing Co., Thorsby, Ala., wants bids on brick machinery.

Brick Machinery.—N. F. C. Cramer, Charleston, S. C., wants mill to grind burnt oyster shells to use as a mixture for making sand brick.

Bricks.—See "Shipbuilding Equipment."

Building Material.—See "Church Furniture."

Building Material.—See "Wood Distillation."

Building Materials.—Savannah Lumber Co., Savannah, Ga., wants wholesale prices on doors, sash, blinds, builders' hardware, etc.

Building Materials and Supplies.—Wm. Weber, Beaumont, Texas, wants catalogues and prices on all kinds of building materials and supplies, including plumbing, slate roofing, steam heating, mill work, etc.

Button Machinery.—Joe Rice, 1321 Senate street, Columbia, S. C., wants to correspond with manufacturers of or dealers in pearl-button-making machinery.

Cannery Machinery.—J. O. Harby, 543 E. 116th street, New York, N. Y., wants full information regarding machinery for canning factory.

Canning Machinery.—H. A. Kroeger, Francis, I. T., wants to correspond with manufacturers of canning machinery.

Canning Machinery.—C. J. French, Brookston, Ind., wants two 50-horse-power boilers, one 25-horse-power engine and all connections; also complete equipment for canning factory.

Church Furniture.—Sams & Carter, Columbia, S. C., want bids on art glass, pews and gas and electric fixtures for church.

Clock.—Tarboro, N. C., is considering the

purchase of a town clock. John A. Weddell, town clerk, can give information.

Cotton Gin.—Ira Jones, Tehula, Miss., wants new outfit for four-gin plant.

Cotton Gin.—Sanders & Lemacks, Ritter, S. C., are in market for two or three gin outfit.

Derrick.—See "Railway Equipment."

Drilling Equipment.—Warren Wagner, Beaumont, Texas, wants prices on machinery for drilling oil wells, including engines, boilers, pipe of all sizes, etc.

Dry-kilns.—Chesterfield Lumber Co., Chetaw, S. C., wants all necessary supplies to complete two dry-kilns.

Electrical Equipment.—Lewisburg Milling Co., Staunton, Va., will need electrical equipment to transmit current four miles; also Corliss engine of about 200 horse-power.

Electrical Equipment.—X 843, Sun Office, Baltimore, Md., wants to buy two-horse-power electric motor. State price and where it can be seen.

Electrical Equipment.—See "Woodworking Machinery."

Electrical Equipment.—See "Wood Distillation."

Electrical Supplies.—Comanche Electric Co., Comanche, I. T., wants supplies for electric plant and telephone system, exclusive of boiler, engine, dynamo and switchboard.

Engines.—See "Woodworking Machinery."

Engines.—See "Saw-mill."

Engines.—See "Electrical Equipment."

Engines.—See "Canning Machinery."

Engines.—See "Woodworking Machinery."

Engines.—See "Railway Supplies."

Engines.—See "Saw-mill."

Engines.—See "Laundry Equipment."

Engines.—See "Wood Distillation."

Engines.—F. Toler Jones, Box 565, Charleston, S. C., is in market for second-hand hoisting engine, also stationary engine.

Engines.—S. L. Cary & Sons, Jennings, La., want two 40-horse-power engines and one 40 and one 45-horse-power locomotive boiler on skids.

Engines.—See "Drilling Equipment."

Engines.—See "Woodworking Machinery."

Engines and Boilers.—See "Shipbuilding Equipment."

Fire-alarm System.—City of Harriman, Tenn., wants to correspond with manufacturers of fire-alarm system. Address Water and Light Department.

Fish-oil Presses.—Chas. W. Drown, Sr., 528 Gravier street, New Orleans, La., wants information regarding the pressing of fish to obtain the oil.

Foundry Supplies.—See "Woodworking Machinery."

Gas and Electric Fixtures.—See "Church Furniture."

Grinding Machinery.—See "Brick Machinery."

Heating Apparatus.—New Cumberland Savings & Trust Co., New Cumberland, W. Va., wants prices on steam heating outfit for new building.

Heating Apparatus.—Board of public affairs, care of F. M. Oliver, clerk, Little Rock, Ark., will open bids December 21 for properly equipping city hall building and bastille for hot-water heating according to plans and specifications now on file in superintendent of public works' office. Usual rights reserved.

Hoisting Engine.—See "Engine."

Hoisting Equipment.—See "Wood Distillation."

Laundry Equipment.—J. M. Williamson, Williamson, W. Va., wants information, prices on complete steam-laundry equipment, including engines, boilers, shafting, pulleys and belting.

Lumber.—See "Woodworking Machinery."

Machine-shop Supplies.—See "Woodworking Machinery."

Machine Tools.—Poag Ferguson Machine Co., Lancaster, S. C., will want 28-inch lathe, 14-foot bed; 24-inch drill press, 24-inch planer (iron), pipe tools, blacksmith tools and cold tire shrinker.

Machinists' Tools.—See "Shipbuilding Equipment."

Mill Supplies.—See "Laundry Equipment."

Mill Supplies, etc.—F. C. Dreyer Supply Co., Cumberland, Md., wants catalogues and jobbers' prices on railroad, mine, mill, factory, contractors', blacksmith and plumbers' supplies.

Match Machinery.—Ernest Yager, 814 First street, Louisville, Ky., wants to correspond with manufacturers of machinery for making matches.

Mill Supplies.—See "Wood Distillation."

Mining Equipment.—New Livingston Coal Co., W. McC. Johnston, general manager, Livingston, Ky., is in market for sufficient new or second-hand 10-pound rolls for six-tenths of a mile of tramway, tip, fifty new mine cars, or irons for same, three-foot gauge, two feet high over all, to hold six-tenths ton each; also wants self-oiling wheel, wheel.

Mining Equipment.—Lightning Gulch Mining Co., Roosevelt, O. T., desires a roaster and concentrator or stamp mill and amalgamated plates, twenty tons capacity.

Oil Presses.—See "Fish-oil Presses."

Paving.—D. D. Bryan, city secretary, Houston, Texas, will open bids January 4 for construction of approximately thirty-two miles of gravel pavements according to profile, plans and specifications on file with F. L. Dormant, city engineer. Certified check for \$300 per mile for the number of miles bidder wishes to construct. Specifications, blank forms of proposals, etc., may be obtained at office of city engineer. Bond required and usual rights reserved.

Pipe.—See "Drilling Equipment."

Pipe.—See "Water-works Equipment."

Planing Mill.—See "Saw-mill."

Plumbing.—See "Building Materials and Supplies."

Pumping Engine.—Robert E. King, secretary board of public works, City Hall, Kansas City, Mo., will open bids December 31 for furnishing and erecting complete one 25,000-gallon vertical triple-expansion condensing pumping engine of crank and fly-wheel type, with all necessary appurtenances. Bids to be made on blank forms furnished on application to superintendent of water department. Each proposal must be accompanied by drawings and specifications showing in detail description of the engine, foundations and floor space required, and giving size of suction and discharge nozzles. Bond in the sum of 50 per cent. of the amount of bid will be required. Usual rights reserved.

Pumps.—See "Water-works Equipment."

Railway Equipment.—See "Mining Equipment."

Railway Equipment.—See "Wood Distillation."

Railway Equipment.—See "Woodworking Machinery."

Railway Equipment.—Clark & Hines, Baltimore, Md., are in the market for 1000 tons of 60-pound relaying steel T rail, with angle bars, for delivery at Norfolk, Va.

Railway Equipment.—Wm. Minnigerode, Lynchburg, Va., is in market for fifty 36-inch gauge side-dump cars about two and one-half yards capacity, and a 36-inch gauge saddle-tank locomotive weighing about eight tons.

Railway Equipment.—Pencock's Iron Works, Selma, Ala., is in market for standard-gauge logging locomotive ready for use, fifteen to twenty tons, direct connection with forward truck, and small driving wheels, with tank or tender behind.

Railway Equipment.—J. T. Slade, Lexington, Ky., is in market for 3000 feet relay or new 30-pound rails delivered at Flat Rock, Kentucky.

Railway Equipment.—Oconee Electric Light & Power Co., Milledgeville, Ga., wants second-hand holsts for derrick, derrick fittings, relaying rails, 40-pound; fifteen tons round spikes or drift bolts one inch to five-eighths inch by eighteen inches, pointed one end and without head.

Railway Supplies.—Clark & Hines, 549 Equitable Building, Baltimore, Md., are in market for one Marion Improve A steam shovel and one 40-ton standard-gauge switching engine; quote price and name location.

Saw-mill.—Eastland Lumber Co., Bon Air, Tenn., wants saw and planing mill, engines, boilers, etc.

Saw-mill.—H. C. Parrott, Kinston, N. C., is in market for second-hand portable saw-mill, 15-horse-power engine and boiler.

Saw-mill.—Fogle Bros., Winston-Salem, N. C., are in market for lath and boiler saw, also cross-cut saw for cutting up logs, either drag-saw or circular.

Shipbuilding Equipment.—Tampa Steam Ways Co., Tampa, Fla., will need Scotch boiler 12 feet by 30 inches, with thirty-six three-inch tubes, of twenty-five horse-power; engine of nine-inch cylinder and 12-inch stroke, cogwheel eight feet diameter, and wildent with six pockets to fit two-inch standard link chain, cogwheel nine feet 18 diameter, fittings to boiler, machinists' tools, clamps, jackscrews, vises and brick.

Steam Hammers.—Acme Fishing Tool Co., Salem, W. Va., will later on want steam hammers.

Steam Heating.—See "Building Materials and Supplies."

Steam Shovel.—See "Railway Supplies."

Steel Scrap.—"Steel Scrap," care Manufacturers' Record, Baltimore, Md., is in market to buy for New Orleans or Galveston delivery several thousand tons of scrap steel rails, ranging in weight from fifty pounds upward. Submit prices f. o. b. cars, either point. Tenders for any part of this material will be considered.

Steel Shed.—Hugh McCloskey, president board of commissioners of port of New Orleans, 237 Carondelet street, New Orleans, La., will open bids January 4 for construction of the Girod street steel shed; \$2000 deposit and bond required. Plans, specifications, proposal forms, etc., are on file at office of engineer, J. F. Coleman, 205 Hennen Building, New Orleans, by whom full sets will be furnished on deposit of \$15. Usual rights reserved.

Submerging Pipe Line.—Robert E. King, secretary board of public works, City Hall, Kansas City, Mo., will open bids December 31 for furnishing material, tools and labor necessary for constructing and submerging a 48-inch diameter by 9-16 inch thickness steel riveted pipe line across and under the Kaw river for Kansas City water department. All bids must be made on blank forms furnished by the city. Bond of 75 per cent. of amount of bid will be required. Bid blanks, profiles, plans and specifications, soundings and borings will be furnished on application to superintendent of water department. Usual rights reserved.

Switchboard.—Bids addressed to Board of Awards will be received by city register, City Hall, Baltimore, Md., until December 23 for furnishing one three-dial transmitter and storage battery switchboard. Certified check for \$500 must accompany each bid. Specifications furnished on application to secretary of the fire department. Usual rights reserved.

Telephone Supplies.—See "Electrical Supplies."

Tunnel.—Robert E. King, secretary board of public works, City Hall, Kansas City, Mo., will open bids December 31 for work and material necessary for construction of tunnel under Kaw river. Plans and specifications and such soundings and borings as have been made showing geological formation, with such other information and records as the city may have, will be furnished to contractors desiring to make bids on this work on application to the superintendent of the water department. Bids are requested on two separate tunnels. Proposals must be made upon printed forms furnished by the board of public works, and a separate proposal shall be made upon each tunnel. Proposals to be for a six foot tunnel or a 12-foot tunnel. Board reserves the right to accept whichever proposition may seem to be to the interest of the city.

Vault.—A. B. Cox, commissioner, Dardanelle, Ark., will open bids December 26 for building a record vault inside courthouse at Dardanelle in accordance with plans and specifications on file with Thos. Cox Machinery Co. Bids must be accompanied by certified check for \$100. Bond required and usual rights reserved.

Water-works Equipment.—Crystal Springs Water Co., Tahlequah, I. T., is in market for 400 tons six, eight and four-inch cast-iron water pipe; 120 tons 10-inch cast-iron water pipe; 8000 pounds special castings, two tubular boilers, fifty horse power, 125 pounds pressure; two 1,000,000-gallon pumps, twenty-four hours, and sixty fire hydrants.

Wire-rope Manufacturers.—F. Toler Jones, Box No. 265, Charleston, S. C., wants names and addresses of wire-rope manufacturers.

Wood Distillation.—W. A. Catlin, 51 Bank of Baltimore Building, Baltimore, Md., is considering plans for building wood distillation plants for distilling oils and other chemicals from wood, and wants catalogues, prices and information on holsting engines, boilers, stills, conveyors for handling tank, engines, dynamos and motors, two locomotives and outfit, rails, track material, etc., for twelve miles of tramroad for logging, flat cars, etc., roofing material, wooden tanks, belting, general supplies, tools, valves, packings, etc.

Woodworking Machinery.—Fisher Manufacturing Co., Mountsville, W. Va., wants prices on engines, boilers, woodworking machinery and lumber, such as ash, elm and poplar.

Woodworking Machinery.—Henderson Car Co., A. L. Jacobs, general manager, Henderson, Ky., wants woodworking machinery, electrical equipment, air compressor, boilers, engines and generators.

Woodworking Machinery.—A. L. Babcock,

Tempest, Va., wants to buy stove and heading machinery, including log engine, cars, track, etc.

Woodworking Machinery.—Coffery Wagon Co., Morganton, N. C., wants machinery for making axles, spokes, hubs and wheels; also foundry and machine shop supplies.

Woodworking Machinery.—R. H. Whatley, Ashland, Ala., wants to buy lathe for turning columns and balusters, also machine for boring columns.

Woolen Mill.—Stephen Carver, Chinook, Mont., is in market for a two-set woolen mill, new or second-hand.

[Continued from Page 431.]

Trade and Department Stores, giving interesting and valuable data concerning such houses in the United States and Canada. Over 2200 jobbers and over 750 department stores are listed, the lines that each carries being presented in full. The arrangement is alphabetically by States, cities and firms, the street and number being given. There are many establishments that cannot afford to be without this new directory. Copies can be obtained from the publishers, Messrs. Stevens Dockham & Co., 6 Beacon street, Boston, Mass. Price \$1.

The Light That's Right.

"The Light That's Right" is the title of a publication somewhat superior to the usual trade literature. The book is educational in regard to incandescent lamps, and both dealers and users will find a perusal of it bringing to their notice some pertinent facts worth knowing regarding incandescent electric lights. The various kinds of lamps illustrated are also briefly but fully described, and some practical pointers regarding lamp efficiency, voltage, regulation, candle-power and other things worth knowing are presented. The Standard Electrical Manufacturing Co. of Niles, Ohio, issues "The Light That's Right," not only the book of that title, but also the Star Incandescent Lamp, which is what the company refers to when mentioning "The Light That's Right." The front cover page of the book is rather handsome, and symbolic of the Star lamp. It shows a five-pointed star with many radiations, the source of light being an incandescent lamp within the star.

Water Meters.

"Water Meters" is the title of a pamphlet just received from the Henry R. Worthington Co., whose new disc meter is described and illustrated, showing the internal construction. The pamphlet also describes the standard duplex piston meter, which has long been so well known for its accuracy, and the Worthington hot-water meter, which is considered an essential part of an engineer's equipment for boiler testing. The latter device has been found of great value in boiler plants for checking up the evaporative values of different kinds of coal, the efficiency of firemen, etc. This pamphlet is an innovation in the way of small leaflets. It is of the standard size for enclosure with letters, 3 1/2 x 6 inches, but instead of being printed upon ordinary coated paper, a high-grade of tinted enamel cardboard is used, rendering the pages much more durable and satisfactory to handle. To water-works officials or others interested in water supply the pamphlet will be well worth the asking. Offices in New York.

Franklin Portable Crane and Hoist.

The Franklin portable crane and hoist is designed for use in shops, factories and all places where it is ever necessary to lift heavy bodies or to transfer them from place to place, and this with the least expenditure of time and labor and with safety. It will lift and carry three tons as easily as a man can carry one hundred pounds. Moreover, it is easily moved, and every point in the shop is rendered accessible. Its great lifting capacity, in conjunction with its portability, makes it in a number of cases more effective than an overhead crane or an industrial railway. Even shops fitted with overhead cranes will find the Franklin equipment a most important addition to their facilities. This crane is now in use in the largest shops in the country. It is manufactured by the Franklin Portable Crane & Hoist Co. of Franklin, Pa., and an illustrated pamphlet concerning it is now being mailed to those who are interested. If you have not received a copy, drop a postal for one.

Mine Equipment.

Activity in mining districts continues the demand for mine equipment. "Mine equipment" is a rather comprehensive term, which may include any and all machinery and supplies needed in mining plants, but is here meant to refer specially to mine cars, car wheels, axles, journal boxes, cable rollers

and stands, line rollers, frogs, switch points and articles in that class. Even when there is no increase in mining activity there is a steady call for cars, car wheels, etc., and this affords a remunerative business to manufacturers of proven worth. Among these manufacturers can well be included the Gustafson Manufacturing Co. of Chattanooga, Tenn. This company issues a brief treatise on mine equipment, emphasizing the fact that the designs shown are simply suggestive in a general way of only a part of the Gustafson specialties, which cover the widest range of mine and furnace practice. Present or prospective buyers will find it worth while to send for this pamphlet.

Sturtevant Mining Machinery.

Knowledge gained in producing high-class machinery for many years has a real value. Designs tested by thousands and faults discovered and corrected form a strong basis for confidence. Gradually high-class machines are evolved. They do not break, because it has been learned where to make them strong; they give a maximum output, because experience has taught how to make them effective. But most important of all, their limitations have been discovered. What they can do is known, and in most cases what they cannot do. The Sturtevant Mill Co. has profited by its many years' experience, and offers mining machinery, the adaptability of which is not a matter of doubt, having been proven by actual practice in important mining operations in various parts of the country. This company's catalogue No. 8 is devoted to mining machinery, and contains a number of excellent illustrations, accompanied by lucid descriptive texts, and will interest all who have occasion to use rock and ore reducing machinery and other mining equipment. Offices at Boston, Mass.

Large Storage Battery for Railway.

The application of storage batteries to railway plants has been given the attention of expert electricians during recent years, and some large installations have been made. Storage batteries as perfected have a field that is constantly enlarging, especially as those in operation have demonstrated their practical utility. Anent this subject, an interesting publication tells about a large storage battery installed for the Ottawa Electric Railway Co., Ottawa, Canada. The illustrations show the 2000-horse-power direct-connected generator, the booster, the switchboard and the battery room. It was only after careful consideration that the Canada company contracted for this installation, and it has found the results more than satisfactory. The description of the plant is by John Murphy, consulting engineer, and is reprinted from a recent issue of the Electrical World and Engineer. The pamphlet is published by the Electric Storage Battery Co. of Philadelphia, which installed the battery, its Chloride Accumulators being used. This company will send a copy of the pamphlet to those interested.

Milling Machines and Cutters.

The production of flat surfaces is a common operation in machine shops. Shop-owners aim to produce flat surfaces quickly, and therefore cheaply. To do this the machinist must take care, when buying milling machines and milling cutters, that he selects equipment of proven efficiency. Tools of this character are offered by the Hess Machine Co., with guarantees on ordinary cast iron of a roughing cut forty-two inches wide, one-half inch deep, 10-inch feed per minute; that is, 210 cubic inches, or fifty-four pounds, per minute. The company claims feeds per minute of ten inches and more in roughing off cast iron the full width of the machine; on steel forgings and steel castings, four inches and more. On a great deal of work still better can be done. The machines are not for special jobs; they take any and all kinds of flat work. A book of details regarding the Hess machines is now ready for distribution. Its photographic illustrations and information will be welcomed by progressive managers of machine shops. Write the officers in the Pennsylvania Building, Fifteenth and Chestnut streets, Philadelphia.

The Ruggles-Coles Dryer.

In designing the Ruggles-Coles Dryer the manufacturer has followed closely the principal of heating the material only sufficiently to drive off the moisture, and then, by applying a large quantity of dry hot air, to absorb and carry away the moisture as fast as it is driven off. This has proved to be a most efficient principle for rapid, perfect and economical drying of any material. One class of this dryer is specially designed and constructed for marl, clay, rock, ores, lime, sand, furnace slag and other materials to which direct heat may be applied. Another type is for oil sand, kaolin, ochre, infusorial

earths, etc., which cannot be dried by direct heat on account of the danger from ignition or injury to material by furnace gases. Other types are for drying brewers' grains, cottonseed, starch feed, corn germs and other organic substances; also for nitrate of silver, nitrate of potash and other fusible salts; also for roofing pebbles and crushed rock, etc. A catalogue illustrating and describing these dryers is being issued by the Ruggles-Coles Engineering Co., which makes drying machinery of all kinds a specialty. New York offices at 39-41 Cortlandt street, and Chicago offices in the Old Colony Building.

Indian Territory Around Ardmore.

Since the United States government acquired that portion of the Indian Territory originally owned by the Chickasaw Nation there has been a steady progress seen in that section. Cities and towns have been established, together with various industries, and the mineral resources of the land have begun to be developed. Within a radius of sixteen miles of Ardmore can be found deposits of lead, coal, asphalt, clay, granite, manganese and traces of copper and iron, while the cotton passing through the Ardmore compress during the 1902 season aggregated 80,000 bales. These facts indicate that the territory referred to is destined to witness a creditable development in industrial activity. The Ardmore Coal & Power Co. has been organized for the purpose of opening coal mines, manufacturing bricks, building a street railway and otherwise assisting in the developments in prospect, and issues an illustrated pamphlet giving some interesting information regarding its properties and the opportunities for manufacturers, business men and settlers. This pamphlet constitutes the report to the company's stockholders. Lee Cruce, cashier of the Ardmore National Bank, is president, and a number of Columbus (Ohio) capitalists are interested in the enterprise.

New Burglar and Fire Alarm.

A new device is now being introduced for the protection of man in his material and vital interests, in his home and place of business, securing him against the designs and acts of burglars and the treacherous nature of fire. This new device is an electro-mechanical gong-sounding apparatus securely enclosed in a heavy steel case, the one end of which is an automatic locking and unlocking door, remaining securely closed and locked while not in operation, but when the alarm mechanism is released, as it is in case of burglary or fire, this door almost instantly opens, letting out the powerful sound of the gong, which can be heard a distance of from one-half to five miles, as chosen. The peculiar construction of this alarm is such that it can be used in connection with all electric and mechanical appliances. Any wire or wires connected with it and permeating the different parts of a building can neither be burned, crossed, grounded, cut or otherwise severed without setting the alarm system in action. This new system and apparatus has already been installed in many mercantile houses, banking establishments and other buildings with entire success. It is being manufactured and introduced by the Modern Burglar & Fire Alarm Co. of Elkhart, Ind. A booklet is now ready giving details about the device.

Ventilating, Cooling and Drying.

Two booklets have just come from the press giving details regarding improved devices for ventilating, cooling and drying. One of these devices is a disk wheel introduced as the result of a demand for a simple yet effective means of ventilating, cooling and drying in numerous situations. The form of the wheel was adopted after exhaustive experimenting to determine the most efficient pattern, and as a consequence the power consumption for moving any given volume of air is a minimum for this style of fan. Present and prospective users of such devices will find it to their advantage to become acquainted with particulars regarding this wheel. The other device is an improved ventilator for use in buildings of every character. This article has typical and superior features that have recommended it to experienced users of ventilating devices. It rapidly and constantly withdraws impure air, hot air, smoke, steam or gases, and many of these ventilators are in position in churches, factories, hotels, mills, steamers and other places. This ventilator is a simple and efficient device, storm and rain proof, durable, and moderate in its first cost. The Buffalo Disk Wheel and the Buffalo Improved Ventilator are the two devices referred to, and they are manufactured by the Buffalo Forge Co. of Buffalo, N. Y. Write the company for booklets of information on the wheel and on the ventilator.

Agricultural Land on the Gould System.

The members of the immigration bureau of the Missouri Pacific system recently made an excursion to the Southern States portions of their territory that they had not before visited. It was found that in the territory traversed and penetrated by the Gould system of railways the undeveloped portions are today held in large bodies, and the settlement of these properties is almost impossible until the land is acquired and listed with the immigration bureau. After proper discussion the members decided to organize the South & West Realty Co., with a capital stock of \$1,000,000, for the purpose of buying and selling agricultural lands along the line of the Gould system. This company has a field of eight States in which to acquire the most desirable agricultural property that can be selected. With an ever-increasing population the advancement of these properties is assured, and the marketing of the lands by the most modern methods will doubtless give great impetus to the developments that would naturally occur. The South & West Realty Co. has issued a prospectus detailing its plan. Wm. Polk of Alexandria, La., has been selected as chairman of the first board of directors, and is distributing the prospectus. Mr. Polk's offices for the company are at 709 Market street, St. Louis, Mo.

Engine Used by Southern Mills.

In industry there has always been a demand for a steam engine combining simplicity, durability and economy, very aptly termed by some one "the Three Graces in steam engineering." The material of which such an engine is made, the skilled labor employed upon it and the engineering ability displayed in its design are the principal factors in securing this result. There is a certain type of engine which has met with great success in the South, especially in cotton mills. This is the Harris Corliss engine, which has a number of distinctive features, including the Brown valve gear. An interesting publication concerning this engine is now being issued. It is a book of illustrations and testimonials from Southern mills which use and recommend the Harris Corliss engine, built by the William A. Harris Steam Engine Co. of Providence, R. I. There are listed such mills of national reputation as the Pelzer (S. C.) Manufacturing Co., Piedmont (S. C.) Manufacturing Co., Lane Mills, New Orleans, La.; Stonewall (Miss.) Cotton Mills, Gaffney (S. C.) Manufacturing Co., Riverside Mills, Augusta, Ga.; Odell Manufacturing Co., Concord, N. C.; Union (S. C.) Cotton Mills and various others. One of these plants has used a Harris Corliss engine for twenty-one years, and still receives the greatest satisfaction from its service. The publication referred to is illustrated with views of many of the mills, and contains information that will interest all users of engines. The Wm. A. Harris Steam Engine Co. has Southern offices in Atlanta, Ga., and Greensboro, N. C.

Betterment Reports.

Reports on shop conditions deal with the numerous factors which make up the complete manufacturing plant. They are written with two purposes in view—a policy to follow for future growth and the immediate betterment of present conditions with the least possible outlay. It is well understood that nearly every shop is particularly efficient in certain directions, but an investigation invariably reveals the fact that it is equally weak in other channels. The preparation of these betterment reports is the specialty of what has come to be known as the "modernizing engineer." A firm which has been particularly successful in this field is Messrs. Dodge & Day, modernizing engineers, of Nicetown, Philadelphia, Pa. This firm issues a most comprehensive pamphlet explaining the services it can render and quoting specific cases of work it has completed for well-known industries. The character of the firms that employed Messrs. Dodge & Day is seen in a mention of a few of them. They include the Link-Belt Engineering Co., Westinghouse Electric & Manufacturing Co., A. S. Cameron Steam Pump Works, Ingersoll-Sergeant Drill Co., Jeannette Iron Works Co., Schaub & Uhlinger and others of prominence. Messrs. Dodge & Day's pamphlet is known as their Bulletin 144. Its cover page is so attractive as a printer's product to be worthy of mention. This page represents a number of betterment reports in their bound forms lying so as to show the names of leading industrial enterprises for which betterment reports have been furnished. Manufacturers who want to modernize their establishments should not fail to write for a copy of Bulletin 144.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office Manufacturers' Record,
Baltimore, Md., December 16.

Beyond a slight advance in Seaboard Air Line 4 per cent. bonds and a small drop in United Railways incomes, there was nothing of particular interest in the Baltimore stock market during the past week. Business was generally dull. Consolidated Gas, G. B. S. Brewery issues and Cotton Duck were all quiet, as were the other usually active securities on the list.

In the trading United Railways common sold at 87½ and 9; the incomes from 57½ down to 56½, and the 4s from 92 down to 91¼. Light & Power 4½s changed hands at 81; Consolidated Gas stock at 60 to 58½; the 6 per cents at 111 to 112; Seaboard common at 13 to 13½; the preferred at 22 to 22½; the 4 per cents at 71½ to 73, and the 5s at 98½ and 99; Cotton Duck at 1¼; G. B. S. Brewing common, 8 to 9; the incomes, 29¼ to 30; income script, 32¼; the 1sts, 49¼ to 50.

Bank stocks sold as follows: Citizens', 27½ and 28; Bank of Baltimore, 110½; Second National, 195¼ to 200; First National, 150; Farmers and Merchants', 70.

Maryland Casualty was dealt in at 45 and 45½; United States Fidelity & Guaranty at 110, and Mercantile Trust at 130.

Other securities traded in were as follows: Atlantic Coast Line stock, 108 and 109; do. 4s, 92½ to 93½; do. 4s, S. C., 100; do. 4s, certificates, new, 80; Atlanta Street Railway 5s, 106; Consolidation Coal, 70½; Firemen's Insurance, 20 and 21; Baltimore Traction convertible 5s, 100½; Northern Central stock, 86½ and 87½; Columbia & Greenville 1sts, 117½; Georgia Southern & Florida 5s, 113¼; Western North Carolina 6s, 116; City & Suburban 5s (Baltimore), 112; United States Steel 5s, 60; City of Raleigh 6s, 100; Georgia & Alabama Consolidated 5s, 106½; West Virginia Central 6s, 111½; Virginia Railway & Electrical Development 5s, 90½ and 91; Alabama Midland 5s, 111½; Baltimore & Annapolis Short Line, 95; Norfolk Street Railway 5s, 108; North Carolina 4s, small, 104¼; Virginia Midland G. M. 5s, 110; Northern Central 5s, A, 119; International Mercantile Marine, 5½.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended
December 16, 1903.

Railroad Stocks.	Par.	Bid.	Asked
Georgia Southern & Florida.....	100	48	
Georgia Sou. & Fla. 1st Pref.....	100	39	
Georgia Sou. & Fla. 2d Pref.....	100	62 68½	
United Railways & Elec. Co.....	50	8 9	
Seaboard Railway Common.....	100	13½ 13½	
Seaboard Railway Preferred.....	100	23½ 23	
Charleston Con. Ry., G. & E.....	50	6 10	
Atlantic Coast Line R. R.....	100	167 169	
Atlantic Coast Line of Conn.....	100	217 230	

Bank Stocks.	Par.	Bid.	Asked
Citizens' National Bank.....	10	27½ 28½	
Drovers & Mech. Nat. Bank.....	100	200	
Farmers & Mer. Nat. Bank.....	40	69¼	
First National Bank.....	100	147½ 151½	
German Bank.....	100	108	
Merchants' National Bank.....	100	200	
National Bank of Baltimore.....	100	111 112	
National Exchange Bank.....	100	194 208	
National Howard Bank.....	10	11½	
National Marine Bank.....	30	36	
National Mechanics' Bank.....	10	26	
National Union Bank of Md.....	100	117	
Second National Bank.....	100	198 200	
Third National Bank.....	100	125	
Western National Bank.....	20	39 40	

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked
Baltimore Trust & Guarantee.....	100	235 270	
Continental Trust.....	100	125 155	
Fidelity & Deposit.....	50	134 140	
International Trust.....	100	86 90	
Maryland Casualty.....	25	45½ 45½	
Mercantile Trust & Deposit.....	50	130 140	
U. S. Fidelity & Guaranty.....	100	105 120	

Miscellaneous Stocks.

G. B. & S. Brewing Co.....	100	7¾ 10
United Elec. L. & P. Pref.....	50	45
Cotton Duck Voting Trust.....	100	1½ 2
Consolidated Coal.....	100	70 76
Consolidated Gas.....	100	58½ 59

Railroad Bonds.

Albany & Northern 1st 5s.....	93½	
Atlanta & Charlotte 1st 7s, 1907.....	108	
Atlantic Coast Line 1st Con. 4s.....	93½	93½
Char., Col. & Aug. 1st 5s, 1910.....	112	
Char., Col. & Aug. 2d 7s, 1910.....	110	
Columbia & Greenville 1st 6s, 1916.....	117 118	
Georgia, Car. & North. 1st 5s, 1929.....	107½ 108	
Georgia South. & Fla. 1st 5s, 1945.....	113 114	
Georgia Pacific 1st 6s, 1922.....	121 122	
Piedmont & Cum. 1st 5s, 1911.....	105½	
Richmond & Danville Gold 6s, 1915.....	115½	
Savannah, Fla. & West. 5s, 1934.....	112	
Seaboard & Roanoke 6s, 1916.....	108 110	
Seaboard & Roanoke 5s, 1926.....	109½	
Southern Railway Con. 5s, 1904.....	112	
Virginia Midland 2d 6s, 1911.....	111½	
Virginia Midland 3d 6s, 1916.....	112	
Virginia Midland 4th 3-4-5s, 1921.....	109	
Virginia Midland 5th 5s, 1926.....	109½	
West. North Carolina Con. 6s, 1914.....	115 117	
West Virginia Central 1st 6s, 1911.....	111½ 113½	
Wilmington & Wel. Gold 5s, 1935.....	116	
Charleston City Railway 5s, 1923.....	105 107	
Charleston Con. Electric 5s, 1906.....	82 90	
Knoxville Traction 1st 5s, 1928.....	98	
Newport News & Old Pt. 5s, 1938.....	96	
Norfolk Street Railway 5s, 1944.....	107 109	
United Railways 1st 4s, 1949.....	91¼ 91½	
United Railways Inc. 4s, 1949.....	56¼ 57½	
Seaboard 4s.....	72¼ 72½	
Seaboard 5s.....	98½ 99	
Lexington Railway 1st 5s.....	97½	
Georgia & Alabama Con. 5s.....	106½ 107½	
Citizens' Ry., Lt. & P. of N. N. 5s.....	89	
Atlanta St. Ry. Co. 5s.....	106	

Miscellaneous Bonds.

Mt. V. & Woodby's Cot. Duck 5s.....	62½ 65
G. B. & S. Brewing 1st 3-4s.....	49½ 50
G. B. & S. Brewing 2d Income.....	29½ 30
United Elec. Light & Power 4½s.....	81
Consolidated Gas 6s, 1910.....	111 112½
Consolidated Gas 5s, 1939.....	112

SOUTHERN COTTON MILL STOCKS

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for
Week Ending December 15.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.).....	90	
Aiken Mfg. Co. (S. C.).....	123	126
Anderson Cotton Mills (S. C.).....	105	
Arkwright Mills (S. C.).....	64	75
Augusta Factory (Ga.).....	95	100
Avondale Mills (Ala.).....	101	
Belton Mills (S. C.).....	108½	109½
Bibb Mfg. Co. (Ga.).....	101	104½
Buffalo Cotton Mills (S. C.).....	100	
Buffalo Cotton Mills (S. C.) Pfd.....	122	
Cabarrus Cotton Mills (N. C.).....	95	
Chilquola Mfg. Co. (S. C.).....	101	
Clifton Mfg. Co. (S. C.).....	135	
Clinton Cotton Mills (S. C.).....	115	
Courtenay Mfg. Co. (Ga.).....	95	
Columbus Mfg. Co. (Ga.).....	78	80
Dallas Mfg. Co. (Ala.).....	91	
Darlington Mfg. Co. (S. C.).....	100	
Eagle & Phenix Mills (Ga.).....	101	
Easley Cotton Mills (S. C.).....	85	
Enoree Mfg. Co. (S. C.).....	80	
Enterprise Mfg. Co. (Ga.).....	150	
Exposition Cotton Mills (Ga.).....	87½	
Gaffney Mfg. Co. (S. C.).....	135	
Grantville Mfg. Co. (S. C.).....	102	
Greenville Cotton Mills (S. C.).....	100	
Grendel Mills (S. C.).....	200	
Henrietta Mills (N. C.).....	88	
King, John P., Mfg. Co. (Ga.).....	110	
Lancaster Cotton Mills (S. C.).....	100	
Lancaster Cot. Mills (S. C.) Pfd.....	100	
Langley Mfg. Co. (S. C.).....	85	90
Laurens Cotton Mills (S. C.).....	175	
Lockhart Mills (S. C.).....	102	
Louise Mills (N. C.) Pfd.....	103	
Louise Mills (N. C.) Pfd.....	102	
Mariboro Cotton Mills (S. C.).....	89	98
Mills Mfg. Co. (S. C.).....	100	
Mills Mfg. Co. (S. C.) Pfd.....	100	
Monaghan Mills (S. C.).....	100	105
Newberry Cotton Mills (S. C.).....	130	
Norris Cotton Mills (S. C.).....	110	
Odell Mfg. Co. (N. C.).....	98	102
Orangeburg Mfg. Co. (S. C.) Pfd.....	100	
Orr Cotton Mills (S. C.).....	101	
Pacolet Mfg. Co. (S. C.).....	105	
Pelzer Mfg. Co. (S. C.).....	165	175
Piedmont Mfg. Co. (S. C.).....	200	
Poe, F. W., Mfg. Co. (S. C.).....	137½	
Roanoke Mills (N. C.).....	99	
Saxon Mills (S. C.).....	100	108
Sibley Mfg. Co. (Ga.).....	60	66
Southern Cotton Mills (N. C.).....	91	
Spartan Mills (S. C.).....	135	140
Trion Mfg. Co. (Ga.).....	125	150
Tucapau Mills (S. C.).....	140	
Union Cotton Mills (S. C.).....	180	
Union Cotton Mills (S. C.) Pfd.....	103½	
Victor Mfg. Co. (S. C.).....	135	
Warren Mfg. Co. (S. C.).....	100	102
Warren Mfg. Co. (S. C.) Pfd.....	106	
Washington Mills (Va.).....	15	20
Washington Mills (Va.) Pfd.....	95	
Whitney Mfg. Co. (S. C.).....	115	125
Wilmington Cot. Mills (N. C.) Pfd.....	100	
Woodruff Cotton Mills (S. C.).....	95	97½

The Bank of Minter City is reported organized at Minter City, Miss.; capital \$100,000.

It is reported that a new bank will be established at Jackson, Ky., by Louisville capitalists.

The Conservative Investment Co. of Savannah, Ga., capital \$30,000, has been incorporated by Horace Rivers, J. Ferris Cann, Hal H. Bacon and George T. Cann.

The Fidelity Building and Loan Association of Georgetown, S. C., capital \$100,000, has been organized. Among the incorporators are W. D. Morgan, Walter

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Hazard, J. B. Steele, Herman Schenk, S. M. Gladstone and J. B. Doar.

The Star Fire Insurance Co. has been organized at Louisville, Ky.; capital \$200,000; surplus \$50,000. The directors are John M. Atherton, James A. Shuttleworth, Attila Cox, Biscoe Hindman, Basil Doerhoefer, J. V. Reed, John J. McHenry, Florian Cox, Arthur G. Langham, J. W. Gaulbert and B. Bernheim. The officers are: Florian Cox, president; A. G. Langham, vice-president and treasurer; Edward J. Watkins, secretary; John J. McHenry, general counsel.

Louisville, Ky.—The city has sold to the Star Fire Insurance Co. \$190,000 of 3½ per cent. refunding bonds at par and interest.

[For Additional Financial News, See Pages 30 and 31.]

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High-grade Investment Bonds, Municipal, Railway, Industrial.

Letters of Credit Available Everywhere.

CONDENSED STATEMENT OF THE
First National Bank of Richmond, Va.
NOV. 17th, 1903.

RESOURCES.	
Loans and Discounts	\$4,105,013 09
Overdrafts	147 74
Other Stocks and Bonds	53,561 15
Banking House and other Real Estate	67,103 15
U. S. Bonds at par	612,560 00
Premium on U. S. Bonds	0
Virginia Bonds to Secure U. S. Deposits	464,000 00
Cash and Due from Banks	842,290 21
	\$6,166,015 23
LIABILITIES.	
Capital	\$600,000 00
Surplus and Profits, net	665,425 87
Reserved for Interest	9,134 80
Circulation	899,000 00
Deposits	3,744,054 66
U. S. Bond Account	142,500 00
Virginia Bond Account	464,000 00
	\$6,166,015 33

VIRGINIUS NEWTON, Pres. JNO. M. MILLER, JR., Cash.

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Commercial and Financial Agent. Business undertaken in all parts of the world. Satisfactory references.

Merchants' & Farmers' Nat. Bank

CHARLOTTE, N. C.

Capital, \$200,000. Surplus and Profits, \$75,000.

Prompt and intelligent attention to all business intrusted to us. Correspondence invited.

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C. N. Evans, Cash. W. C. Wilkinson, Asst. Cash.
N. Y. Correspondent: SEABOARD NATIONAL BANK.

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Investment Securities.

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Branch Office, Albany, N. Y.

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Capital, \$500,000.

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GEO. J. BALDWIN, Vice-President.
WM. V. DAVIS, Secretary and Treasurer.

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References by permission:

Central Natl. Bank, Natl. Capital Bank and James L. Norris, Patent Solicitor, Washington, D. C.

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COTTON MILL STOCKS

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Of Maryland,

BALTIMORE.

Capital, \$2,000,000.00
Surplus and Profits, \$1,550,660.12

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J. WM. MIDDENDORF, Vice-Pres.
EDWARD H. THOMSON, Sec. and Treas.
CHAS. D. FENHAGEN, Sec. and Treas.
WALTER D. FOCKE, Asst. Sec. & Treas.

Executive Committee:

SAMUEL C. ROWLAND, Chairman,
Sec. and Treas. American Lumber Co.;
Pres. National Bank of Port Deposit, Md.
SUMMERFIELD BALDWIN, of
Woodward, Baldwin & Co., Wholesale
Dry Goods Commission Merchants;
Director National Exchange Bank.
RICHARD H. EDMONDS, President and
Editor Manufacturers' Record.
J. WM. MIDDENDORF, of J. Wm. Mid-
dendorf & Co., Bankers & Brokers;
Vice-Pres. Seaboard Air Line Railway.
EDWARD H. THOMSON, of E. H. Thom-
son & Sons, Bankers & Brokers;
Director Merchants National Bank.
DOUGLAS H. GORDON, President.

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The above certificates are engraved, in coupon form, issued to bearer, with provision for registration of Principal, in denominations of \$1000 each, interest at four per cent. per annum, payable March, June, September and December.

The holder of these certificates, by giving sixty days' notice in writing, can obtain payment of principal on any interest date.

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BALTIMORE.

Capital and Surplus, \$5,340,000.

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A rating book which rates all merchants of the United States and Canada; no blank ratings. Estimates of capital are made within a narrower range than ever before attempted; HABIT OF PAYMENT is indicated in addition to, though absolutely independent of, the "capital, credit or standing rating." This is a vital feature heretofore uncovered by any agency book. We rate from "nothing" to ten millions and over. SPECIAL REPORTS promptly furnished.

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American

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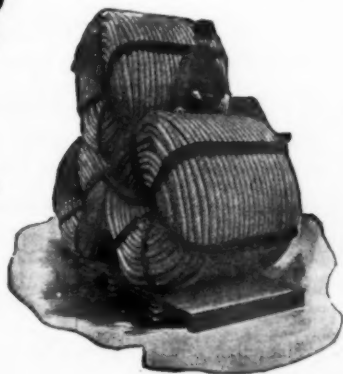
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Rope

North Carolina Banks.

Reports to the North Carolina corporation commission, showing the condition of State, private and savings banks in North Carolina, display the fact that there are in that Commonwealth 125 State banks, seven private banks and twenty-three savings banks. Since the last report, made six months ago, there has been an increase of \$1,163,124 in total assets. Other totals are as follows: Capital, \$4,457,533; surplus, \$607,624; undivided profits, less expenses and taxes, \$807,450; deposits subject to check, \$15,291,814; time certificates of deposit, \$1,560,905; demand certificates of deposit, \$1,010,962; loans and discounts other than demand loans, \$16,870,825; demand loans, \$930,179; total resources, \$26,168,282.

Railroad Reports.

The Gulf & Ship Island Railroad Co. reports through Fisk & Robinson of New York for the month ended October 31 gross earnings \$171,328, increase as compared with the same month of last year \$18,006; operating expenses and taxes \$80,735, increase \$8726; net earnings \$71,543, increase \$9280; surplus \$53,118, increase \$6114. For the four months ended October 31 gross earnings \$638,502, increase as compared with the corresponding period of last year \$81,977; operating expenses and taxes \$382,795, increase \$21,785; net earnings \$255,707, increase \$60,192; surplus \$182,307, increase \$42,300.

New Corporations.

Reported that a bank will be established at Yanceyville, N. C.

It is reported that the Bank of Ocilla will establish a branch bank at Lawrenceville, Ga.

The Louisa Citizens' Bank of Louisa, Va., has been granted a charter. Dr. E. A. Terrell is president.

The People's Bank of Wiggins, Ark., has been incorporated, with \$30,000 capital, by E. F. Ballard, John Dawson and J. F. P. Bond.

The South Louisville Savings & Deposit Bank of Louisville, Ky., will begin business at the first of the new year; W. H. Netherland, president.

The International Loan & Deposit Co. (Incorporated) of Alexandria, Va., has been chartered; G. I. Baker, president; capital \$50,000 to \$5,000,000.

The Merchants' National Bank of Brownsville, Texas, capital \$100,000, has begun business; officers, E. H. Goodrich, president; J. G. Fernandez, cashier.

The Citizens' National Bank of Blooming Grove, Texas, has been authorized to begin business; capital \$25,000; M. G. Young, president; R. S. Loyd, cashier.

The Bank of Norcross, capital \$25,000, has been chartered at Norcross, Ga. The incorporators are A. A. Johnson, O. O. Simpson, S. T. McElroy and C. A. McDaniel.

The Central National Bank has begun business at Ocala, Fla. Herbert A. Ford is president; George H. Ford, vice-president; and Frank L. Watson, cashier; \$50,000 capital.

The First National Bank of Claude, Texas, capital \$25,000, has been approved. The organizers are T. S. Cavins, J. O. Watson, C. M. Byrd, A. R. Buck and J. W. Martin.

The Commercial Bank at Wellsville, Mo., capital \$15,000, has been incorporated by W. S. Ellis, president; Dr. S. S. Cox, vice-president; W. W. Barrett, cashier, and others.

The First National Bank of Oxford, Ala., has been approved; capital \$25,000. The organizers are D. C. Cooper, Oxford, Ala.; M. A. Brock, J. R. Draper, T. A. Howle and O. W. Cooper.

The People's Bank & Trust Co., capital \$50,000, has been organized at Purcell, I. T., with the following directors: J. R. Wells, R. L. Vorhee, John E. Goldsby, J. H. Colby and Dorset Carter.

The Home National Bank of Llano, Texas, capital \$60,000, has been approved. The organizers are W. J. Moore, T. J. Moore, W. F. Gray, Felix Vanderstucken and W. Vanderstucken.

The Mt. Airy Bank of the Farmers' Trust, Banking & Deposit Co. of Baltimore, Md., has begun business at Mt. Airy, Md. Charles E. Poole is president, and C. Herbert Thomas, cashier.

The First National Bank of Thomas, Okla., has been approved; capital \$25,000. The organizers are G. J. E. Moser, Charles E. Shaw, Anton Huber, Jr., Charles A. Huber and A. L. Moser.

The German-American National Bank of Mason, Texas, capital \$25,000, has been approved. The organizers are J. W. White, Mason, Texas; Belle W. Bridges, T. D. Lindsay, R. J. Baze and R. Grosse.

The Randolph National Bank of Elkins, W. Va., has been authorized to begin business; capital \$25,000. The officers are: W. H. Cobb, president; M. W. King, vice-president, and W. H. Keim, cashier.

The Bank of Commerce of Geary, O. T., has been incorporated with \$10,000 capital by C. H. Dewaide of Oklahoma City, A. L. Bartell of St. Joseph, Mo.; Roy M. Felton of Hydro, B. D. Woods and W. H. Hall of Geary.

The Southern Trust Co. of Little Rock, Ark., capital \$1,000,000, has been incorporated by C. C. Creclius of St. Louis, president; John T. Ginochio of Little Rock, secretary, and Postmaster W. S. Holt of Little Rock.

The De Queen Abstract Co., capital \$5000, has been organized at De Queen, Ark., with officers as follows: J. S. Lake, president; James L. Cannon, vice-president; R. S. Hunsucker, secretary; Otis T. Wingo, treasurer.

A new bank is reported organized at Mansura, La.; capital \$15,000. The directors are: President, Dr. E. Regard; vice-president, Edward A. Drouin; Louis Porterie, F. Regard, Dr. G. L. Drouin, Wade Glascock, A. L. Ducote, E. J. Beridon and B. B. Joffron.

The American Building and Loan Association of Spartanburg, S. C., has been given a charter; capital \$80,000, which may be increased to \$500,000. The officers are: T. B. Stackhouse, president; J. W. Alexander, vice-president, and C. E. Epston, secretary and treasurer.

The Bank of Central at Central, S. C., is to begin business January 1. The directors are J. N. Morgan (president), F. B. Morgan (cashier), J. McD. Bruce, Henry Bowen, H. J. Shirley, W. L. Gasaway, T. M. Norris and B. J. Johnson.

The Selma National Bank of Selma, Ala., capital \$150,000, has been approved. The organizers are J. W. Castles of the Hibernia Bank & Trust Co., New Orleans, La.; E. J. Buck, O. F. Cawthon, A. W. Cawthon, John Carraway and others.

Application has been made for a charter to establish a bank at Maury City, Crockett county, Tenn., by L. J. Bootne, I. B. Tigrett, E. G. Boothe, J. C. Edenton, C. F. Boothe and R. F. Spragins. It is reported that the new bank will be a branch of the Union Bank & Trust Co. of Jackson, Tenn.

The Realty Title & Trust Co. of Jacksonville, Fla., has published its articles of incorporation, giving notice that it will apply for a charter. It proposes to take over the abstracting business of James E. Johnson of Jacksonville. The incorporators are James E. Johnson, Carroll D. Judson, Edward T. Johnson, W. B.

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Denver Union Water Co. 5s,
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American Cigar Co., 4% Notes,
Milwaukee Gas Co. 4s,
Va.-Carolina Chemical Co. 5s,
Albemarle & Ches. Canal 4s,
St. Joseph, (Mo.) Gas Co. 5s,
American Malting Co. 6s,

DEALT IN

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Spartanburg, S. C.
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Southern Cotton-Mill Stocks a Specialty.
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W. H. BURDICK, Asst. Cash.
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Surplus and Undivided Profits, 131,028.69
Best facilities for making Collections at lowest
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Hamilton H. Hickman, Vice-Prest.

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BALTIMORE, MARYLAND.

ALBERT G. OBER, President.

T. E. WITTERS, Sec'y & Mgr.

THOS. L. BERRY, Treasurer

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American Trust & Banking Co., Atlanta, Ga.
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Humphre
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Huntsv
A. S. Fle
issue of \$
premium
Sherma
\$30,000
& Pacific
zer & Co.
Augusta
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W. Dicke
issued Jan
Oklahon
ceived unt
\$100,000
exceed not
Alexander
Tallulah,
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ceive bids
\$69,000 of
T. McCle
secretary.
Donalds
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will receiv
for \$500,0
bonds. V
McCune, s
Austin,
bonds of
to \$288,00
printed, an
retire 7 pe
tire issue
university

Owen, Madagascar D. Johnson and Owen S. Allbritton.

The following national banks have been organized: The First National Bank of North East, Md.; capital \$25,000; L. L. Dirickson, Jr., president; A. Anderson, vice-president; R. L. Morgan, cashier. The Bank of Mobile National Banking Association, Mobile, Ala., capital \$100,000; M. J. McDermott, president; T. J. O'Connor, cashier. The First National Bank of Stonewall, I. T.; capital \$25,000; W. E. Mooney, cashier.

The Le Croy Loan & Investment Co., capital \$3000, has been incorporated at Ensley, Ala. The officers are: J. W. Blankinship, president; J. E. Reago, vice-president, both of Birmingham; Y. B. Le Croy of Ensley, secretary and treasurer.

The Floyd County Bank has been organized at Floyd, Va.; capital \$20,000. The officers and directors are: B. S. Pedego, president; I. F. Martin, vice-president. D. R. Wood was elected cashier. Directors: I. F. Martin, A. G. Blackwell, B. S. Pedego, Peter Carmady, J. P. Profit, A. T. Howard, J. E. Burwell, G. W. Dalton and E. M. Reed.

The Valley Park Trust Co., capital \$100,000, has been incorporated at St. Louis, Mo., Clayton, Mo.; capital \$100,000. The principal stockholders are Alex. R. Peacock, D. M. Clamson and Thomas Morrison of Pittsburg; also W. J. Vance of the same city, and others of Valley Park and Kirkwood, Mo. The directors are Robert Naysmith, W. T. Vance, P. R. Holback, R. J. Walters and W. J. Vance.

New Securities.

Bay City, Texas.—The attorney-general has approved \$60,000 of Matagorda county road and bridge bonds.

Elkins, W. Va.—The Coal & Coke Railway has filed a mortgage to secure \$10,000,000 of bonds.

Blakely, Ga.—The city has sold \$15,000 of water-works bonds to the Robinson-Humphrey Company of Atlanta, Ga.

Kansas City, Mo.—An ordinance has been passed authorizing the immediate sale of \$500,000 of water-works bonds.

Huntsville, Ala.—The city has sold to A. S. Fletcher for a trust fund a recent issue of \$40,000 of 5 per cent. bonds at a premium of \$400.

Sherman, Texas.—The city has sold \$30,000 of 30-year 4 per cent. Texas & Pacific subsidy bonds at 102½ to Spitzer & Co. of Toledo, Ohio.

Augusta, Ga.—The city has sold \$106,000 of 4 per cent. refunding bonds to John W. Dickey of Augusta. They are to be issued January 1. The price is not stated.

Oklahoma City, O. T.—Bids will be received until 2 P. M. on December 21 for \$100,000 of courthouse bonds, interest to exceed not more than 4½ per cent. J. S. Alexander is county treasurer.

Tallulah, La.—The commissioners of the fifth Louisiana levee district will receive bids until noon on December 28 for \$60,000 of 50-year 5 per cent. bonds; J. T. McClellan, president; A. T. Lane, secretary.

Donaldsonville, La.—The commissioners of the Lafourche basin levee district will receive bids until noon December 28 for \$500,000 of 40-50-year 5 per cent. bonds. V. Maurin is president; W. J. McCune, secretary.

Austin, Texas.—The new refunding bonds of the State of Texas, amounting to \$288,000 of 3 per cents, have been printed, and are on the first of January to retire 7 per cents issued in 1874. The entire issue will be held by the school, the university and other State funds in Texas.

Financial Notes.

The Citizens' State Bank of Custer City, O. T., has increased its capital from \$5500 to \$12,500.

A dispatch from Gainesville, Texas, reports that the First National Bank has absorbed the Red River Bank.

The Tennille Banking Co. of Tennille, Ga., has been granted permission to increase its capital from \$25,000 to \$30,000.

The First National Bank of Birmingham, Ala., proposes to increase its capital from \$300,000 to \$500,000. It will occupy its new building on January 1.

A dispatch from Guthrie, Okla., reports that George W. Canfield & Bros., owners of the Jennings State Bank of Jennings, O. T., have purchased the Yale State Bank of Yale, O. T., from E. G. Newall and Allen Adams.

AMERICAN CLAY PRODUCTS.

Proportion of Bricks in the Total Output.

The United States Geological Survey has ready for distribution a chart that shows the quantity and value of the clay products of the United States in 1902 as distributed throughout the several States. This chart was compiled by Mr. Jefferson Middleton under the supervision of Dr. David T. Day, chief of the division of mining and mineral resources.

The total value of our clay products in 1902 amounted to \$122,169,531. Ohio is the banner State of the Union in point of production, leading off with \$24,249,748 worth of goods. Pennsylvania, with a credit of \$17,833,425, is next in line, and little New Jersey follows, with \$12,613,263 to her name. Illinois comes next, with clay products to the value of \$9,881,840, and New York follows closely with a value of \$8,414,113. The last on the list is Wyoming, with a production valued at \$22,150.

These clay products are of various kinds. They include common brick, front brick, vitrified paving brick, fancy or ornamental brick and fire-brick, as well as stove lining, drain-tile, sewer pipe, ornamental terra-cotta, fireproofing, tile, pottery and miscellaneous clay products.

A little over 40 per cent. of the total value of clay products is in common brick. The production of brick of that class in 1902 amounted to 8,475,067 thousand brick, having a value of \$48,885,869. They brought an average price of \$5.77 per 1000. Ohio, which stood first in value of clay products, yields to Pennsylvania, Illinois and New York in the value of its clay product of common brick. In point of quantity New York, which produced 1,061,712 thousand common brick, takes precedence over all the others. A corresponding decrease in price is, therefore, shown, New York brick averaging only \$4.73 per 1000, as against \$5.01 in Illinois and \$5.74 in Ohio and \$6.40 in Pennsylvania.

The quantity of front brick produced in the country amounted to 458,391 thousand, valued at \$5,318,008, or \$11.60 per 1000. Of vitrified brick there were 617,192 thousand, valued at \$5,744,530, or \$9.31 per 1000. The value of fancy or ornamental brick amounted to \$806,453, of fire-brick to \$11,970,511, of stove lining to \$630,924, of drain-tile to \$3,506,787, of sewer pipe to \$7,174,892, of ornamental terra-cotta to \$3,526,906, of fireproofing to \$3,175,593, and of tile to \$3,622,863. The value of miscellaneous clay products amounted to \$3,678,742. These included adobes, aquarium ornaments, boiler and locomotive brick and tile, burnt-clay bal-

last, carboy stoppers, chemical brick and tile, chimney blocks, pipe and tops, clay furnaces, retorts and settings, conduits for underground wires, crucibles, curbing block, fire-clay insulation, fire mortar, flue lining, furnace brick and tile, gas logs, glasshouse supplies, grave markers, ground fire-brick, muffles, oven tile, paving block, porous cups, saggars, stone pumps, wall coping, web-tile sewer and well brick.

Nearly 20 per cent. of the clay products of the country are included under the term pottery. The value of the total product amounts to \$24,127,453, of which Ohio contributed \$10,519,138, thus showing that Ohio owes its rank as first of the clay-producing States to its production of pottery rather than of brick and tile. New Jersey's pottery, valued at \$6,192,959, comes second on the list. Pennsylvania pottery amounted to the sum of \$1,876,265, West Virginia to \$1,166,464 and New York to \$929,431. The pottery production of nearly every other State was below \$500,000 in value.

Enamelled brick, the entire product of which was valued at \$471,163, was made only in California, Illinois, Maryland, Missouri, New Jersey, Ohio and Pennsylvania. New Jersey and Pennsylvania, with products respectively of \$202,740 and \$57,183, were the only States in which there were three or more producers of enamelled brick.

It is gratifying to note that the clay industries of the country appear to be progressing steadily. The year 1900 showed an output valued at \$96,212,345, which increased in 1901 to \$110,211,587, and has reached in 1902 the sum of \$122,169,531.

Literary Notes.

The Factory Manager and Accountant. Some Examples of the Latest American Factory Practice. Collected and arranged by Horace Lucian Arnold (Henry Roland). Published by The Engineering Magazine, New York and London.

This volume of more than 400 pages is a book of practical things for practical men, and contains a straightforward, clear description of methods and systems pursued by very successful factory managers. The object of the author is to fully explain the subjects treated, so that others may apply them to their business. He presents numerous illustrations, accurately reproducing the different kinds of factory-accounting forms, with complete descriptions of sizes and colors of paper on which they are printed. The purpose of each form and the mode of using it are also described, so that none may err in adapting them to various kinds of work. Details are so fully related that the reader is enabled to make an intelligent estimate of the probable value to him of any particular form presented. Everything appears to be planned so as to produce a

form which shall contain a full and perfect record of dates and procedures with the least possible clerical work, and any manager who is not satisfied with his methods, feeling that the cost of accounting is too high, or that his forms fail to give detailed information looking to that economy in operating which he desires, will doubtless find in this excellent book such facts as will enable him to accomplish his aims. The price of the book is \$5. It is well printed in large type on heavy paper, and is neatly bound in blue cloth.

Reduced Rates to New Orleans and Return via Pennsylvania Railroad.

On account of the meetings of the American Economic Society and the American Historical Society at New Orleans, La., December 28 to January 1, the Pennsylvania Railroad Co. will sell round-trip tickets to New Orleans and return from all stations on its lines, December 24, 25 and 26, good for return passage until January 5, inclusive, at reduced rates. For specific information consult ticket agents. †

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OFFICE OF

Virginia-Carolina Chemical Co.

RICHMOND, VA., December 8th, 1903.
The Board of Directors have this day declared a dividend of TWO (2) PER CENT. the same being dividend No. 33 on the Preferred Stock of this Company, payable January 15th, 1904, when checks will be mailed to all stockholders of record at the close of business December 31. The books for the transfer of Preferred Stock will be closed from January 1 to January 15, both days inclusive. S. W. TRAVERS, Treasurer.

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PROPOSALS.

NOTICE
TO CONTRACTORS.

Valdosta, Ga., December 10, 1903.

The Commissioners of Roads and Revenues for Lowndes County, Georgia, invite sealed proposals for the erection of a new County Courthouse for Lowndes County, in the Public Square in the town of Valdosta, Ga., agreeably to the plans and specifications prepared by Architect Frank P. Milburn of Columbia, S. C.

Proposals will be received until 2 o'clock P. M. on Monday, February 15, 1904.

The plans and specifications are on file in the office of R. T. Myddelton, Clerk of the Board, at Valdosta, Ga., and at the office of the Architect, where they may be inspected by the Contractors desiring to bid.

The main building will be 72x100 feet, with front entrance, portico and columns, and two end entrances. The building will be three stories in height, with a basement. The basement story to be used for boiler, fuel rooms, toilet rooms, etc.

The main first floor will contain offices for the Clerk, with private office and record room; Ordinary's office and record room; Tax Collector's office and record room; County Commissioners' office; City Court room; City Clerk's office; Sheriff's office; ladies waiting room and toilet.

The record rooms will be constructed of absolutely fireproof material, with iron doors, steel rolling shutters and metal furniture.

The second floor will contain main court room with men and women's witness rooms and toilets, two jury rooms, consultation and Judge's rooms and toilets, Grand Jury, Witness and Solicitor's rooms, with toilets. The County School Superintendent's office will also be on this floor.

The third floor will contain two large jury rooms to be used by hung juries, and the opposite end of the third floor will be used as a gallery for colored people, facing the court room.

The building will be constructed of granite, brick, stone, terra-cotta, steel, iron, yellow pine, slate or tiling, etc. For more detailed information, see plans and specifications.

The Commissioners request each Contractor to make a separate bid on the foundation complete to the top of the first floor joists, including all of the granite foundation, excavation, concrete footings, brick work, granite steps and ashlar; first floor joists with rough floor laid, first floor steel beams set in position, and everything finished to the top of the water table, except plumbing; arches, beams, electric wiring, cement floors, inside doors and frames.

Payments for the erection of this building are to be made by special agreement between the successful bidder and the County Commissioners. Each Contractor will state in his bid the time necessary to complete the work ready for occupancy.

Each Contractor must enclose with his bid a certified check on some well-known bank in the sum of Three Thousand (\$3000) Dollars, made payable to T. S. McKey, Chairman of the Board, as a guarantee if his bid is accepted he will enter into contract at once and give a good and solvent Surety Company's bond, authorized to do business in the State of Georgia, in double the amount of the contract price, as required by law; said bond to be filed within twenty days after the contract is signed. On his failure to file said bond the check will be forfeited to the said County as liquidated damages caused by reason of the delay.

The County Commissioners reserve the right to reject any or all bids.

By order of the Commissioners of Roads and Revenues of Lowndes County, Georgia.

T. S. McKey,
Chairman B. of R. & R., L. Co.
R. T. MYDDELTON,
Clerk of the Board.

PROPOSALS will be received at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 12 o'clock noon, December 23, 1903, and publicly opened immediately thereafter, to furnish at the navy-yard, Washington, D. C., a multivoltage equipment for 16-inch and 14-inch gun lathes, eight lathes in all to be fitted. Blank proposals will be furnished upon application to the Bureau of Supplies and Accounts, Navy Department, Washington, D. C. H. T. B. HARRIS, Paymaster-General, U. S. N.

PROPOSALS will be received at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 12 o'clock noon, January 12, 1904, and publicly opened immediately thereafter, to furnish at the navy-yard, New York, N. Y., 250,000 yards unbleached cotton drill, 40,000 neckerchiefs, 60,000 watch caps and 45,000 woolen jerseys. Blank proposals will be furnished upon application to the navy pay office, New York. H. T. B. HARRIS, Paymaster-General, U. S. N.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 2, 1903.—Sealed proposals will be received at this office until 3 o'clock P. M. on the 4th day of January, 1904, and then opened, for the installation of two electric passenger elevators in the U. S. Appraiser's Warehouse, New York, N. Y., in accordance with the drawings and specification, copies of which may be obtained at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

SEALED BIDS will be received until January 14, 1904, for the erection of a City Hall for the City of Savannah, Georgia, according to plans and specifications prepared by H. W. Witcover, Architect, Savannah, Ga. Bid to be accompanied by certified check for 3 per cent. of amount of bid. Copies of plans and specifications may be obtained upon application to the Architect, and a deposit of twenty-five (25) dollars, which deposit to be returned to the bidder upon return of the plans and specifications. HERMAN MYERS, Mayor.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 12, 1903.—Sealed proposals will be received at this office until 3 o'clock P. M. on the 25th day of January, 1904, and then opened, for the construction (except heating apparatus, electric conduits and wiring) of the U. S. Post Office and Court House at Athens, Ga., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Athens, Ga., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

PROPOSALS will be received at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 12 o'clock noon, January 5, 1904, and publicly opened immediately thereafter, for the construction of a laboratory on the grounds of the United States Naval Hospital, New York, N. Y. Plans can be obtained upon application to the architect, Mr. Ernest Pigg, 35 Wall street, New York, N. Y., and specifications upon application to the Naval Laboratory, Brooklyn, N. Y., or the Bureau of Supplies and Accounts, Navy Department, Washington, D. C. Blank proposals will be furnished upon application to the Navy Pay Office, New York, N. Y. H. T. B. HARRIS, Paymaster-General, U. S. N.

PROPOSALS will be received at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 12 o'clock noon, December 23, 1903, and publicly opened immediately thereafter, to furnish at the navy-yard, New York, N. Y., a quantity of arc lamps, cable, conduit and fittings, rubber tape, blue denim, bunting, hardware and hand tools, various machine tools, brass, copper, expanded metal, rivet and structural steel, expansion hose, gum gasket, vulcanized rubber, aluminum paint, vermilion, neat's foot oil, brass and copper pipe, iron pipe, brass and iron pipe fittings, water-gauge, glasses, valves, pickles, green coffee, condensed milk, syrup, tinned biscuit, canned salmon, tinned corned beef, litmus paper, rubber bands, blank books, memorandum pads, note and typewriter paper, pens, ink, pencils, blueprint paper, miscellaneous stationery, parabolic mirrors, varnish brushes, coffee tins, seine twine, lampwick, harness leather, leather belting, running lights, spruce sticks, glassware, hand and leg iron, oars, bath brick and flat wooden cars. Blank proposals will be furnished upon application to the navy pay office, New York, N. Y. H. T. B. HARRIS, Paymaster-General, U. S. N.

BOND SALE.

The City of Hawkinsville, Ga., offers for sale \$40,000 twenty-nine year bonds. Denomination \$1000. Coupon May and November, payable at office of City Clerk and Treasurer, Hawkinsville, Ga., in currency or New York exchange. Bonds dated November 1st, 1903. Free from city tax. Bids to be opened at 12 o'clock M., December 28th, 1903, by the Bond Commission. Sealed bids can be made for all or any part of said bonds, and must be accompanied by a certified check for five per cent. of the par value of the amount bid for. Successful bidders to pay for bonds allotted them January 14, 1904. Any further information cheerfully given.

Address bids to
T. J. HOLDER,
City Clerk and Treasurer,
P. O. Box L, Hawkinsville, Ga.

The Boomer & Boschert

KNUCKLE JOINT

PRESS

For Baling Cloth, Paper, Yarn &c

Or for any other purpose requiring great pressure.

BOOMER & BOSCHERT PRESS CO.

396 W. Water St., Syracuse, N. Y.

Close mill connections enable us to furnish direct from mills when desired:

ANGLES,
BARS,
BANDS,
BEAMS, CHANNELS,
ZEEES, TEES,
HOOPS,
PLATES,
Etc.

RAILS,
RIVETS,
SHAFTING,
SHEETS,
STRIP STEEL,
STEEL TIRE,
TUBES,
Etc.

THE
BOURNE-FULLER CO.
IRON, STEEL,
PIG IRON,
COKE.
Cleveland, Ohio.

FRANK B. GILBRETH,
GENERAL CONTRACTOR.

WE CONSIDER THAT OUR NEW ROTARY CONCRETE MIXER FULFILLS THE SPECIFICATIONS AND REQUIREMENTS OF AN IDEAL CONCRETE MIXER. WE ARE WILLING TO LET OUR PROFESSIONAL REPUTATION AS EXPERTS IN CONCRETE CONSTRUCTION STAND OR FALL WITH THE MERITS OF THIS MIXER.

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Industrial Enterprises Organized and Financed.

If you have an Industrial Enterprise you want financed, write us, giving complete description and we will send you full information.

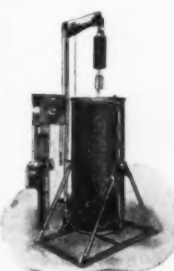
ROBERT R. ZELL & CO., 806-7 First National Bank Bldg., Birmingham, Ala.

Examiner for American Guaranty Company in the South.

RICHARD A. BLYTHE,
COTTON WARPS AND YARNS,
No. 114 Chestnut Street, PHILADELPHIA, PA.

BUCKINGHAM, PAULSON & CO., Commission Merchants,
NEW YORK. COTTON YARNS, PHILA
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Makes PERFECT Blue Prints
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HARMON S. PALMER COMPANY,
1450 Binney Street, Washington, D. C., owners of Basic Patents.

PITTSBURG
METER CO.

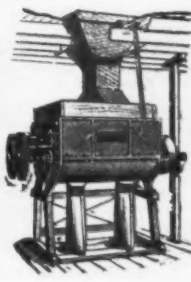
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THE BROUGHTON
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"SEABOARD" STEEL CASTINGS show physical qualities equal to the finest forgings. Our raw material is most carefully selected and our PRODUCT fills the highest requirements.

OPEN HEARTH STEEL CASTINGS, for locomotives, shipbuilding, electrical, pump and general machinery purposes. Subject to U. S. Government, Lloyd's, Railroad and other specifications.

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2.....	3.00.....	5.30.....	8.00.....	10.00.....
3.....	4.25.....	8.00.....	11.75.....	15.00.....
4.....	5.50.....	10.50.....	15.50.....	20.00.....
5.....	6.75.....	13.00.....	19.25.....	25.00.....
6.....	8.00.....	15.00.....	23.00.....	28.00.....
7.....	9.00.....	17.00.....	26.00.....	30.00.....
8.....	10.00.....	19.00.....	29.00.....	32.00.....
9.....	11.00.....	21.00.....	32.00.....	34.00.....
10.....	12.00.....	23.00.....	35.00.....	36.00.....
11.....	13.00.....	25.00.....	38.00.....	38.00.....
12.....	14.00.....	27.00.....	41.00.....	40.00.....
13.....	15.00.....	29.00.....	44.00.....	42.00.....
14.....	16.00.....	31.00.....	47.00.....	44.00.....
15.....	17.00.....	33.00.....	50.00.....	46.00.....
16.....	18.00.....	35.00.....	53.00.....	48.00.....
17.....	19.00.....	37.00.....	56.00.....	50.00.....
18.....	20.00.....	39.00.....	59.00.....	52.00.....
19.....	21.00.....	41.00.....	62.00.....	54.00.....
20.....	22.00.....	43.00.....	65.00.....	56.00.....
21.....	23.00.....	45.00.....	68.00.....	58.00.....
22.....	24.00.....	47.00.....	71.00.....	60.00.....
23.....	25.00.....	49.00.....	74.00.....	62.00.....
24.....	26.00.....	51.00.....	77.00.....	64.00.....
25.....	27.00.....	53.00.....	80.00.....	66.00.....
26.....	28.00.....	55.00.....	83.00.....	68.00.....
27.....	29.00.....	57.00.....	86.00.....	70.00.....
28.....	30.00.....	59.00.....	89.00.....	72.00.....
29.....	31.00.....	61.00.....	92.00.....	74.00.....
30.....	32.00.....	63.00.....	95.00.....	76.00.....
31.....	33.00.....	65.00.....	98.00.....	78.00.....
32.....	34.00.....	67.00.....	101.00.....	80.00.....
33.....	35.00.....	69.00.....	104.00.....	82.00.....
34.....	36.00.....	71.00.....	107.00.....	84.00.....
35.....	37.00.....	73.00.....	110.00.....	86.00.....
36.....	38.00.....	75.00.....	113.00.....	88.00.....
37.....	39.00.....	77.00.....	116.00.....	90.00.....
38.....	40.00.....	79.00.....	119.00.....	92.00.....
39.....	41.00.....	81.00.....	122.00.....	94.00.....
40.....	42.00.....	83.00.....	125.00.....	96.00.....
41.....	43.00.....	85.00.....	128.00.....	98.00.....
42.....	44.00.....	87.00.....	131.00.....	100.00.....
43.....	45.00.....	89.00.....	134.00.....	102.00.....
44.....	46.00.....	91.00.....	137.00.....	104.00.....
45.....	47.00.....	93.00.....	140.00.....	106.00.....
46.....	48.00.....	95.00.....	143.00.....	108.00.....
47.....	49.00.....	97.00.....	146.00.....	110.00.....
48.....	50.00.....	99.00.....	149.00.....	112.00.....
49.....	51.00.....	101.00.....	152.00.....	114.00.....
50.....	52.00.....	103.00.....	155.00.....	116.00.....
51.....	53.00.....	105.00.....	158.00.....	118.00.....
52.....	54.00.....	107.00.....	161.00.....	120.00.....
53.....	55.00.....	109.00.....	164.00.....	122.00.....
54.....	56.00.....	111.00.....	167.00.....	124.00.....
55.....	57.00.....	113.00.....	170.00.....	126.00.....
56.....	58.00.....	115.00.....	173.00.....	128.00.....
57.....	59.00.....	117.00.....	176.00.....	130.00.....
58.....	60.00.....	119.00.....	179.00.....	132.00.....
59.....	61.00.....	121.00.....	182.00.....	134.00.....
60.....	62.00.....	123.00.....	185.00.....	136.00.....
61.....	63.00.....	125.00.....	188.00.....	138.00.....
62.....	64.00.....	127.00.....	191.00.....	140.00.....
63.....	65.00.....	129.00.....	194.00.....	142.00.....
64.....	66.00.....	131.00.....	197.00.....	144.00.....
65.....	67.00.....	133.00.....	200.00.....	146.00.....
66.....	68.00.....	135.00.....	203.00.....	148.00.....
67.....	69.00.....	137.00.....	206.00.....	150.00.....
68.....	70.00.....	139.00.....	209.00.....	152.00.....
69.....	71.00.....	141.00.....	212.00.....	154.00.....
70.....	72.00.....	143.00.....	215.00.....	156.00.....
71.....	73.00.....	145.00.....	218.00.....	158.00.....
72.....	74.00.....	147.00.....	221.00.....	160.00.....
73.....	75.00.....	149.00.....	224.00.....	162.00.....
74.....	76.00.....	151.00.....	227.00.....	164.00.....
75.....	77.00.....	153.00.....	230.00.....	166.00.....
76.....	78.00.....	155.00.....	233.00.....	168.00.....
77.....	79.00.....	157.00.....	236.00.....	170.00.....
78.....	80.00.....	159.00.....	239.00.....	172.00.....
79.....	81.00.....	161.00.....	242.00.....	174.00.....
80.....	82.00.....	163.00.....	245.00.....	176.00.....
81.....	83.00.....	165.00.....	248.00.....	178.00.....
82.....	84.00.....	167.00.....	251.00.....	180.00.....
83.....	85.00.....	169.00.....	254.00.....	182.00.....
84.....	86.00.....	171.00.....	257.00.....	184.00.....
85.....	87.00.....	173.00.....	260.00.....	186.00.....
86.....	88.00.....	175.00.....	263.00.....	188.00.....
87.....	89.00.....	177.00.....	266.00.....	190.00.....
88.....	90.00.....	179.00.....	269.00.....	192.00.....
89.....	91.00.....	181.00.....	272.00.....	194.00.....
90.....	92.00.....	183.00.....	275.00.....	196.00.....
91.....	93.00.....	185.00.....	278.00.....	198.00.....
92.....	94.00.....	187.00.....	281.00.....	200.00.....
93.....	95.00.....	189.00.....	284.00.....	202.00.....
94.....	96.00.....	191.00.....	287.00.....	204.00.....
95.....	97.00.....	193.00.....	290.00.....	206.00.....
96.....	98.00.....	195.00.....	293.00.....	208.00.....
97.....	99.00.....	197.00.....	296.00.....	210.00.....
98.....	100.00.....	199.00.....	299.00.....	212.00.....
99.....	101.00.....	201.00.....	302.00.....	214.00.....
100.....	102.00.....	203.00.....	305.00.....	216.00.....

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For Sale. SOUTHERN TIMBER LANDS

Cypress,
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Also Richest Farming Lands
on Earth.

I cruise all my properties and guaran-
tee estimates.

Reference, Bradstreets' Agency, Prov-
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Several tracts of Virgin Hardwood
Timber Land, ranging from 500 to 60,
000 acres. Large bodies of Yellow
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300,000 ACRES pine and cypress lands in
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32,000 ACRES. Onslow Co., N.C.; will cut
175 million feet, 90% pine. R. R. and
navigable river, 10 miles to ocean. Price, \$255,000.

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Timber and Chestnut Oak Bark Lands.

A tract of about 45,000 acres, more or less,
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low freight rates, is offered for short time at
low price, to responsible parties. Has prin-
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quantities of Chestnut Oak bark. Good op-
portunity for Tannery. Address,

TIMMONT
Care Manufacturers' Record.

FOR SALE.

20,000 Acres undeveloped Coal Land on rail-
road. A great bargain. Also two Coal
Mines in operation.

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COAL and IRON Properties
are my Specialty.

If you have a dividend-paying property to sell
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Limestone	Slate	Fineness
1.25%.....	57.40%.....	Initial set 2 hrs. 15 min.
Oxide Alumina 0.28%.....	23.65%.....	Cement, 3 Sand, 250.
Oxide Iron..... 0.56%.....	4.45%.....	Neat 7 days 695 lbs.
Lime..... 54.06%.....	3.23%.....	Neat 28 days 790 lbs.
Magnesia..... 0.77%.....	3.23%.....	
Volatile..... 42.32%.....	6.80%.....	

FOR SALE.

A well developed Corundum Mine at
a great bargain. Also two Talc Mines.
A. S. EMERSON, Knoxville, Tenn.

Water Powers and Mill Sites.

The W. T. Weaver Power Company, ASHEVILLE, N. C.

now offers electric power, at very low
rates for manufacturing purposes, from
its Power Station on the French Broa-
River, four miles from the City of Ashe-
ville, N. C.

This Development Yields 3000 Horse Power.

Good Factory Sites, Cheap Power,
Abundant Labor of the best quality,
Good Railroad Facilities, Ideal Climatic
Conditions, Pure Water for Bleacheries
and Finishing Plants from a mountain
creek running through the premises,
having a discharge of 5,000,000 gallons
in 24 hours, are some of the merits of
this locality that will command the con-
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For particulars, address

W. T. WEAVER, President.

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POWER AT ELBA, ALA.

The Ideal Location for Cotton Factories.

Good staple cotton grown in abundance
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rates; exemption from State, County and
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Power Company, a local corporation, has com-
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large amount of power, and is now installing
wheels, dynamos, etc., to convert the power
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price to manufacturing concerns locating at
Elba. The first large factory to locate at Elba
will be given very advantageous terms and
prices on power. Address

THE ELBA POWER COMPANY,

ELBA, ALA.

FREE FACTORY SITES

We offer **Factory Sites Free**
in town of

Steelton, W. Va., Wetzel County,

situated on the Ohio River, 2½ miles above New
Martinsville, W. Va., 12 feet above 1984 flood.
Cheap natural gas and coal fuel. Ample water
supply. Baltimore & Ohio and short line rail-
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River, insure a navigable stage of water at all
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shipping facilities. Steam power furnished to
new industries

The New Martinsville Improvement Co.

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Free Site for Cotton Mill.

The new town of Coats, on the Cape Fear
& Northern Road, is situated in the heart
of a good cotton growing section of the
State. It is in a most healthy location and
surrounded by a population from which
could be drawn good labor for employ-
ment in a cotton mill. In order to secure
the location of a cotton mill in this new
Railroad Town, I will give free of cost a
deed for four acres of land upon which a
cotton mill can be erected and will be glad
to hear from any person interested.

J. T. COATS,

Coats, Harnett Co., N. C.

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FOR LEASE,

On Favorable Terms,

the valuable COTTON MILL PROP-
ERTY known as Gray's Mills, on the
Patapsco River, consisting of a four-
story stone mill and auxiliary buildings,
with newly installed 300 horse water,
steam and electric power plant, suitable
for any kind of textile manufacture.

For further information address

V. G. BLOEDE,

Station "D", BALTIMORE, MD.

If You Will Invest,

either as a syndicate, corporation, col-
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\$25,000.00 to improve and cultivate
tracts of virgin rice land adjoining this
City (Lands that will pay annually
\$30.00 net per acre) I will furnish the
land equivalent to your investment at
\$8.00 per acre. There is railroad and
river transportation with an abundance
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FOR QUICK ACCEPTANCE.

We offer for sale an up-to-date milling plant, with
dry kilns and planing mill attached. At the junction
of two trunk lines of railroad. Timber has been es-
timated to cut about 22,000,000 feet. Rate to Brunswick,
Ga., a deep water port, \$6.00 per car. Price \$25,000
cash.

This is a going concern and is ready for buyer to
step right into a paying business. Good reasons given
for wanting to sell.

BROOKSTON, FENDING & CO., Brunswick, Ga.

Factory Wanted,

or a desirable site for the same for
COTTON SPINNING for a large foreign
company wishing to locate here.

Owners, Towns, Boards of Trade
having anything desirable to offer will
please send full particulars at once to

NICHOLSON & CO.

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"Beware of the wild cat's claws,
Follow business lines and success
will follow mining investments.

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for sale or lease on royalty.

Address, CLARKSVILLE,

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FOR SALE. 107 Acres, Adjoining Charleston Naval Station Property.

Line of trolley cars, and stone's throw
from Plant System, Atlantic Coast Line,
Southern Railroad and Water.

Plats and full information. Also other
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A. F. C. CRAMER, Charleston, S. C.

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J. A. MATHIEU,
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FOR SALE.

For Manufacturing purposes, two long
adjacent city blocks upon the water front
of New York Harbor, with sixteen acres
of land under water. Apply to

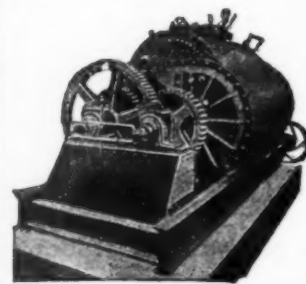
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FOR SALE. 2000 Barrels Coal Tar.

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ARMITAGE MFG. CO., RICHMOND, VA.



The Schwarz-System Brick Company

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- No. 72 14"x5' Lodge & Shipley.
No. 73 14"x5' Lodge & Shipley.
No. 49 20"x10' Taper, Lodge & Shipley.

THE LODGE & SHIPLEY MACHINE TOOL CO.

CINCINNATI, OHIO, U. S. A.

FANS.

Central station man's opportunity to increase the day load. We offer for immediate delivery, all f. o. b. Cincinnati, the following 125 cycle fans:

- 150 G. E. swivel and turn, 12 in., 104 volts, \$5.00 each.
150 Emerson solid, 12 in., 52 volt., \$3 each.
200 Westinghouse solid, 13 in., 53 volt., \$3.50 each.
100 G. E. swivel and turn, 12 in., 52 volt., \$4.00 each.

JOHN A. STEWART ELECTRIC CO.
430 Sycamore St., Cincinnati, Ohio.

CARLOADS

OF SECOND-HAND

**Lathes,
Planers,
Shapers,
Drills,
Milling Machines,
Etc., Etc.**

Just received. Reliable makes. All good serviceable tools.

WRITE FOR LIST.

THE GARVIN MACHINE CO.

Spring and Varick Sts., New York City.

ENGINES.

For sale some unusually fine practically new Corliss engines, among them:

- One 28"x60" Harris.
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One 20"x48" Wheelock.
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One 16"x36" Harris.
Pair 14"x36" Hamilton.
One 10"x24" Wetherill.
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All sizes Automatic and Slide Valve Engines.

WICKES BROS.

95 Liberty St., New York City.

FOR SALE.

- 1 22x52 R. H. Watts Campbell Corliss Engine.
1 10x12 Ideal Automatic Engine.
1 10x7x10 Worthington Duplex Pump.
1 15 ton Road Roller for sale or rent.
1 Little Giant Steam Shovel.
1 10x7x10 Worthington Duplex Pump.
Iron Tanks, 300 to 1000 gallon capacity.

JAS. S. BRADEN, 26 Cortlandt St., New York.

FOR SALE.

75 K. W. direct connected set.
115 volts, excellent condition.

J. C. M. LUCAS,

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BARGAINS—CHEAP.

- One Deane Duplex Comp. Pump, 14x26x11x18.
One 30x13 Blake Pattern Crusher, nearly new.
Three Hoisting Engines. Ralls, Locomotives.

L. E. KENNEDY & CO.

17 Broadway, New York City.

FOR SALE.

- 14"x6' Lodge & Barker Turret.
14"x54" Putnam R. & F. Rest.
15"x6' Porter R. & F.
15"x6' Pratt & Whitney R. & F. with Taper.
16"x10' Fay & Scott Cpd. Rest.
18"x8' Putnam Axle.
16"x6' Johnson Turret.
18"x8' Reed Plain.
18"x8' Lodge & Davis Cpd. & Taper.
18"x6' Lodge & Davis Chucking Lathe.
26"x8' Johnson Cpd. Rest.
36"x14' Betts Cpd. Rest.
No. 14 B. & O. Turret.
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28" Prentiss Shaper.
25"x25"x6" Sellers Planer Spiral.
25"x25"x6" Whitcomb Planer—Spur.
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24"x42"x10" Whitcomb—Spur.

- 42"x42"x18" Betts—Spur.
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No. 0 Blackford Radial Drill.
20" Hoefler Upright.
20" Barnes Upright.
3 Spindle Garvin Sensitive.

- No. 4 1/2 Garvin Plain B. G. & A. F.
No. 2 Garvin B. G. & A. F.
No. 3 Garvin Plain B. G.
2 No. 2 Garvin Plain.
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- 36"x14" Pratt & Whitney Horizontal Boring Mill.
No. 3 Mitts & Merrill Little Giant Keysat.
20" Stroke Morton Draw Cut Keysat.
No. 2 Pratt & Whitney Cutting-Off Machine.
3 Wet Tool Grinders.
1 Wells Bros. Universal Cutter and Reamer Grinder.
1 Springfield Knife Grinder.
1 Cold Saw—19" Blade.
1 12" Lowell Slicer.
No. 103 Ferracute Power Press.
1 Emery Grinder, Iron Column & Counter-shaft.
1 Emery Grinder.
1 Magnetic Turning Separator.
1 Reed Speed Lathe.

BROWN & ZORTMAN MACHINERY CO.,
Pittsburg, Pa.

2ND-HAND TOOLS.

Lathes.

- 17 in. x 4 ft. Hill Speed (9).
16 in. x 6 ft. Blaisdell R. & F.
18 in. x 8 ft. F. E. Reed.
18 in. x 8 ft. Fife, B. & F.
29 in. x 4 ft. N. Haven P.R.
24 in. x 12 ft. Blaisdell blocks.
26 in. x 18 ft. Fitchburg blocks.
27 in. x 18 ft. Lawrence C.R. Axle Lathes, Bement (2).

Planers.

- 22 in. x 1 ft. Lawrence.
26 in. x 18 ft. Bond Chuck.
30 in. x 18 ft. N. Y. S. E. Co.
48 in. x 16 ft. Sellers 2 H'ds.

Shapers.

- 16 in. Western Geared.
22 in. Hendey, New Vise.

Drills.

- 30 in. 14 in. Gap Sild. H'd.
36 in. N. H., complete.
Boiler Mkrs.' Suspension.
4 Spindles, heavy.

Screw Mchs.

- No. 6, 1, 2 and 3 1/2 Autos. P. & W.
No. 2 B. & S. Automatic.
2-16 in. Spencer Auto. for Colls.
Hartford 2 in. and 1 in. Auto's.
No. 60 Garvin 1/2 in. W.F.

Write your requirements.

G. L. BENNETT, 113 Liberty St., New York

For Sale.

- One 65 ton Bucyrus Shovel, Kentucky Delivery, first class condition.
One 50 ton Bucyrus Shovel, Chicago Delivery, elegant condition.
One one-yard dipper dredge, suitable for dredging work.
Chicago delivery.

Jno. T. Driscoll & Co.

Room 13 McCormick Block, CHICAGO, ILL.

FLOUR MILL MACHINERY.

- ROLLER MILLS—Double Stands.
One 6x12, three 6x18, three 9x18 Case.
One 9x24, one 9x14 Allis.
One 9x24 and one 9x30 Todds & Stanley.

IRON FRAME VERTICAL FRENCH BUHR MILLS.

- Two 30" Harrison, two 20" Sprout, Waldron.
Three 18" Richmond, one 14" Sprout, Waldron.

WOOD FRAME HORIZONTALS.

- One 22" Bradford, and one each, 18", 24", 30" and 36" Straub.
Stock constantly changing. Write for what you want.

STRAUB MACHINERY CO.,
Cincinnati, Ohio.

Dredge for Sale.

A Lidgerwood 30 H. P. Portable Land Dredge, located in Missouri! Is equipped with 1 1/2-yard Hayward "Orange Peel" Bucket, 50-foot boom, of 12x12 fir; heavy "A" frame. All machinery, timbers, sheaves and appurtenances complete, in splendid condition, available for immediate delivery. Cost new \$3600. My price \$2200, loaded on cars shipping point.

WILLIS SHAW—MACHINERY—CHICAGO.

BARGAINS FOR QUICK DELIVERY.

- No. 2 Gates Crusher.
No. 3 Gates Crusher.
No. 5 Style B, Gates Crusher.
Double column Drop Hammer, cylinder 14"x36", fine order.
Good Second-Hand Engines.
12-ton Kelly Roller, fine as new.
New Well Drilling Machine, cheap.
Marion AA Shovel, fine condition.

CONTRACTORS' SUPPLY & EQUIPMENT CO., 232 Fifth Avenue, CHICAGO.

SECOND-HAND MACHINERY.

- 48"x24' Fife lathe, geared face plate.
Fine heavy screw-cutting tool
48x48" Gibson Planer, table 18', single head.
30x30"x8' Gray Planer.
24x24"x5' New Haven Planer.
18x18"x3' New Haven Planer.
18" Hendey Shaper.
20" Silvers Drill, power feed.
24" Prentice Drill, hand feed.
60" Box Radial Drill.
60-lb. Phillips & Justice Belt-driven Hammer.
2-ton Steam Hammer.
1 1/2" Steam Hammer.
6 to 2 1/2" Pipe Threading Machine.
2 to 1/4" Pipe Threading Machine.
34" Bull Dozer.
72" Bending Rolls.
15" Alligator Shear, belt driven.
400-light Westinghouse Dynamo.
300-light Westinghouse Dynamo.
125-light Westinghouse Dynamo.
Engines, Boilers and Pumps, all sizes.
Send for our complete stock list.

WICKES BROTHERS PITTSBURGH, PA.

FOR SALE.

Five Blowing Engines.

- 36" Steam Cylinder, 64" Air Cylinder, 54" Stroke.
Engines were built by Cuyaboga Engine Works and can be seen in operation at our plant at Columbus, Ohio. Can be delivered about Jan. 1st.

The Columbus Iron & Steel Co.

COLUMBUS, OHIO.

FOR SALE.

17 NEW 36" gauge 30,000 lbs. capacity Flat Cars

For Prompt Shipment.

Kilby Locomotive & Machine Works,
ANNISTON, ALA.

WE SELL
Engines, Boilers,
Pumps and Quarry
Supplies,
Concrete Mixers,
Horse Rollers,
Steam Drills,
Air Compressors,
Belting, Hose,
and a full line of
Contractors' Supplies.

FOR SALE.

- \$ 1 18x43 Left Hand Harris Corliss Engine.
" 1 20x48 Left Hand Hamilton Corliss Engine.
" 1 24x48 Right Hand Brown Corliss Engine.
" 1 250 K. W. General Electric Generator, speed 425, voltage 500.
" 1 200 K. W. Generator. 500 volts.
" 1 24x48 Left Hand Brown Corliss Engine.
" 1 16x42 Right Hand Hamilton Corliss Engine.
" 1 20x36 Porter Slide Valve Engine.
" 1 20x48 Left Hand Wheelock Corliss Engine.
Write for full description.

Clyde Machine Works

39th and Union Ave., CHICAGO, ILL.

Wood-Working Machinery.

- One 24x6 Pony Planer, Connell & Dengler.
One 24x6 Pony Planer, J. A. Fay & Co.
One 30" Cabinet Planer.
One 30x12 Double Surfer, S. A. Woods.
One 24x8 Atlantic Sizer.
One 42" Back Knife Lathe.
One Double end Tenoner.
One Hall & Brown self-feed rip-saw.
One heavy Berlin Machine Co. self-feed rip-saw.
One 7" Moulder, 4 sided; S. A. Woods.
One 10" Moulder, 4 sided, Hall & Brown.
One 32" Band Saw, Fay.
One Swing Saw made by Allen.
One 24" and 42" 3 drum Invincible Sander.
One 42" Columbia.
One Scroll Saw.
One Double Spindle Shaper, W. R. & R.
Wunder Sanders and Wonder Glue machines.
Gasoline Engines, all sizes.
Shafting, hangers, belting, pulleys, etc.

PRICE MACHINERY CO.

507 Great Northern Bldg.

CHICAGO, ILL.

FOR SALE.

- One 1 1/2-yard AA Marion Shovel.
One 23-ton Bucyrus Shovel, 1-yard dipper, Pittsburgh delivery.
One 45-ton Thew Automatic Shovel, 1 1/2-yard dipper, Ohio delivery.
One Moore Trenching Machine, complete with buckets and 25 H. P. engine and boiler.
One 250-ft. Carson Trench Machine.
21 1 1/2-yard Western Dump Cars (3 rotaries).
12 1 1/2-yard Cars.
37 3-yard Western Dump Cars.
One Emerson Pump, 5" discharge.
Two Kitson Contractors' Lamps.
Two 25 H. P. Geyser Traction Engines.
70 tons 35-lb. Relaying Rail and Crossovers.

N. C. HEISLER & CO.

2304-68 Washington Ave., Philadelphia, Pa.

RAILS.

We own 1000 Tons 35 lb. First Class Relaying Steel Rails with Fastenings, in East Texas, on 3 large Railroads. 8, 12, 16 and 20 lb. New Steel in our warehouse. 25 to 40 lb. New Steel in stock at Mill. New and Relay any weights.
Locomotives, Equipment and Supplies of all kinds.

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East St. Louis, Ill.

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24"x42"
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In Stock. Immediate Delivery. Rebuilt and Guaranteed.

20" 40"x60" Cross Compound Corliss. 28"x60" Wetherill Corliss. 26"x60" Wetherill Corliss. 21"x42" Rickards Corliss. 20"x48" Frick Corliss. 20"x42" Slater Automatic. 22"x32" Watertown. 18"x24" New York Safety Vertical. 16"x27"x16" Westinghouse Compound. 14"x24"x14" Westinghouse Compound. 12"x22"x30" Porter-Allen Automatic. 3 12"x20"x12" Westinghouse Compounds. 16"x36" Wetherill Corliss. 16"x42" Harris Corliss. 16"x16" Green Automatic. 15"x15" Armstrong & Sims. 15"x30" Buckeye. 15"x30" Russell Automatic. 15"x18" Taylor-Beck Automatic. 15"x16" Ball Automatic. 14"x15" Armstrong & Sims. 14"x15" McIntosh & Seymour. 13"x12" Armstrong & Sims. 12"x12" Vertical Fitchburg Automatic. 12"x24" Buckeye Automatic. 12"x15" Ide Automatic. 12"x12" Armstrong & Sims. 11"x15" Atlas Automatic. 11"x12" Chandler & Taylor Automatic. 10"x16" Buckeye Automatic. 10"x15" Atlas Automatic. 3 75 H. P. Westinghouse Standard Automatics. 2 55 Westinghouse Juniors. And many others. Stock is constantly changing. Let me have a list of your wants.

BOILERS.

2 66"x18" Horizontal Tubulars, 125 lbs. steam. 6 66"x16" Horizontal Tubulars, 120 lbs. steam. 2 150 H. P. Wood Water Tube, practically new. Large stock of new and second-hand Horizontal, Vertical and Locomotive Boilers. 2500 H. P. Goulet Heater. 3 500 H. P. Berryman Heaters. 60 large Steam Pumps, up to 12" suction, assorted sizes. 50 H. P. Otto Gas Engine. 40 H. P. Otto Gas Engine. Large stock of Dynamos, Iron and Wood Working Machinery. Send for Special Catalogue of 2300 pieces.

FRANK TOOMEY,

127-131 N. Third St. Philadelphia, Pa.

WANT TO SELL.—5 150 H. P., 6 125, 3 100 and 8 20 up to 50 H. P. Horizontal Return Tubular Boilers. 100 lbs. steam and better. 1 50 H. P. Vertical Boiler, complete; also, 1 10 H. P. NEW, never used, complete. 1 5 H. P.; also several larger ones. 1 2 H. P. Gasoline Engine. 1 6 H. P. Hor. R. T. Boiler. 1 5 H. P. Center Crank Engine. 1 15 H. P. Self-contained Center Crank. 1 50 H. P. Side Crank. 1 100 H. P. Center Crank. 1 200 H. P. Side Crank. Hor. Slide Valve Engines. 1 8x10 Erie Ball Automatic Engine. 3 5 H. P., 2 6 H. P., 2 8 H. P., 4 10 H. P. and 7 12 to 25 H. P. Vertical Engines, excellent condition. 1 20-ton Dudgeons Improved Hydraulic Jack. 2 6 H. P. Coal Oil Engine and Boiler, complete. 1 5-ton Electric Crane. 10 K. W. Motor, used one week. 3 G. & G. Vacuum Pumps, 14x10x9, 12x20x9. 1 8x5 D. C. S. D. Lidgerwood Hoister. 9 54x16 ft. long Hor. Return Tubular Boilers. 1 No. 3 Dallett Portable Drill, complete. 1 16x10x24 Single Pump; 16x10x16 Knowles. 1 14x8x12 and 14x7x12 Single Knowles Pumps; also lot of Tank Pumps, duplex and single; Motors, Dynamos, Tanks, Wire Rope, Cable, etc.

WANT TO BUY.—1 500 H. P. or 2 250 H. P. each Vertical Water Tube Boilers. 3 30 to 60 H. P. Vertical Boilers. Lot of High Pressure and Tank Pumps; Wire Cable, 1½ to 2½" inclusive; Pipe, and ANYTHING YOU HAVE TO OFFER, must be SECOND-HAND.

ANTHRACITE MACHINERY & SUPPLY CO.
Long Distance Telephone. ALLENTOWN, PENNA.

FOR SALE.

DAVIS CALYX DRILL.

Class F, with appurtenances and 10 H. P. locomotive type Boiler on wheels, to run drill.

This drill is used for exploiting for minerals and for driven wells, and is very complete in all its appurtenances. It has been in use about ten months with best of care, and was new when purchased. Its capacity is guaranteed for 600 feet, but will bore deeper with sufficient drill rods. It cuts a 1½" hole and 2" core; 306 feet of drill rods, 131 feet of 5" extra black pipe for casing. Drive head and shoe. This drill gave entire satisfaction, and in our opinion is superior to a diamond drill. We are selling because of retirement from business. Cost complete over \$1800. Will sell for \$900 f. o. b. cars Sylva, N. C.

R. L. MURRAY, Waynesville, N. C.

NEW STEEL RAILS.

We have a large quantity of steel, A. S. C. E. section, various weights, with or without fastenings, for immediate or future delivery. Also have "seconds" for sale.

O. W. DAVIS & CO., 68 Wall St., New York City.

FOR SALE.

NEW STEEL RAILS.

12, 16, 20, 30, 35 and 40 lbs., with splice bars, bolts and spikes. Immediate shipment from stock.

JOHN J. HAMEL & CO.
House Building. PITTSBURGH, PA.

FOR SALE.

\$75,000 worth of new leather belting, single and double, from 1" to 24" wide, which is somewhat stock worn but brand new, having never been used, for all practical purposes as good as the day it came out of the shop. We are selling it as second-hand belting. It was built by one of the best belt manufacturers in the United States. We offer it in quantities to suit buyers. Write for prices.

L. F. SEYFERT'S SONS,
437-441 N. Third Street. PHILADELPHIA.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4 a year.

Wood Split Pulleys FOR SALE

I want to close out at once a large stock of wood pulleys composed of the Forstner and Eaton makes. All sizes up to 50 inches in diameter. Price made according to purchase.

J. D. MALLORY,
Baltimore, Md.

HOISTING ENGINES AND MACHINERY.

One Lidgerwood No. 120, 8½"x10 cylinders. One Lidgerwood No. 72, with simplex swinging gear. One 7x12 single cyl., single drum, with boiler. One 5½"x10 single cyl., single drum, without boiler. 12 small Stationary Engines, 5 to 40 H. P. CONTRACTORS' BOILERS, DERRICKS. Contractors' Supply Co., Park Bldg., Pittsburg.

FOR SALE.

250 tons 35 lb. relays, with splice bars, good condition. 1 (Dickson Manufacturing Co.) 35-in. gauge, 35-ton locomotive, with tender. 12 15-ton capacity, side dump, 35-in. gauge, hopper bottom ore cars, by Fredegar & Co., Richmond. All the above material subject to inspection at McDowell, Alleghany Co., Va. ALLEGHANY ORE & IRON CO. Clifton Forge, Virginia.

MACHINERY BARAINS.

3 7x12 125 H. P. Brownell & Co.'s H. T. boilers, fine order. 1 12x15 100 H. P. Lansing automatic side crank engine. 1 16x24 Lansing automatic side crank engine. 1 16x18 center crank Atlas slide valve engine. 4 large belt wheel pulleys, suitable for line shafting or engines. From 4 to 20" double-ply leather belts, different sizes, fine order. We will buy, sell or trade. Let us have your wants.

J. W. KOHN & CO., Cleveland, O.

Steel Building,

900 feet x 56 feet.

Good as new, for immediate shipment.

UNION RAIL CO.

902 Farmers Bank Bldg. PITTSBURGH, PA.

FOR SALE—LOCOMOTIVES.

Baldwin 56-ton Consolidated, cyls. 20x24, first-class. Baldwin 50-ton Mogul, cyls. 18x24, first-class. Baldwin 22-ton 4-Drive, saddle tank switcher. 2-wheel front truck, cyls. 11x15; just overhauled. Porter 3-foot Saddle Tank, 6-driver, cyls. 10x16, weight 17 tons, very good order, quick delivery. Many other Engines, various gauges, geared and straight connected. Write for prices. THE MALES CO., 256 Broadway, New York, N. Y.; 713 Traction Building, Cincinnati, O.

FOR SALE.

Several Narrow Gauge Engines 10 to 20 tons; also standard from 40 to 60 tons. 1 16x24 Switcher in splendid condition. Stationary Boilers and Engines. 1 Perkins Shingle Machine as good as new. Agent for the Russell Wheel and Foundry Co. Cars. Also the Parker Steam Skidder.

J. H. MACLEARY & CO.
Suffolk, Va.

Locomotives, Cars, Steam Shovels.

7 Standard Gauge Passenger Cars for sale or lease.

Locomotives, Stand. or Narrow Gauge.

The Cincinnati Equipment Co.

Works, Cullum Sta. CINCINNATI, O.

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New and Relaying Rails

OF ALL SECTIONS, WRITE

Cohen-Schwartz Rail and Steel Co.

ST. LOUIS' LARGEST SCRAP IRON HOUSE.
Office and Plant Wharf 1, Block South of Tyler St. ST. LOUIS, MO.

MANUFACTURERS

Light Steel Rails,

12, 16, 20, 25, 30 and 35 lbs. with splices. Prompt delivery.

Maryland Rail Co.

CUMBERLAND, MD.

New and Second-Hand

Iron Tools and Woodworking Machinery

Corliss and Double Valve Engines for Trolley Roads and Electric Lighting Stations.

H. C. BAKER & CO.

114 N. 3d Street, Philadelphia, Pa.

CONTRACTORS' MATERIAL.

One 9x14, 36" gauge saddle tank locomotive. One 10x16, 36" gauge locomotive with tender. Three 16x24 standard gauge with tender. One 10x12 S. G. Baldwin dummy type locomotive. One 8x16, 49" gauge saddle tank; also 7x12 same gauge. One Marion style A shovel with 1½ yd. dipper. One Vulcan shovel with about 1½ yd. dipper. Giant B. style. One 24" gauge locomotive and 18, 24" gauge cars; fine order. 36", 42" and standard gauge cars all sizes and also rail. One Smith concrete mixer on skids, steam engine attached. 1 Pile driver, 1 Flory engine and boiler. 1 Orange peel dredge complete with 2½ yd. buckets. Centrifugal and steam pumps, wheel scrapers, slips, dynamo, etc. NOTE: We will RENT you a complete CONTRACTORS' PLANT if you do not wish to purchase outright.

HARPER MACHINERY CO.

Park Row Bldg., N. Y.

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J. E. FRANKS

SAVANNAH, GA.

RAILS, CARS and LOCOMOTIVES, FROGS, SWITCHES, Etc.

RAILS—LOCOMOTIVES.

400 tons 35 and 40-lb.; 2000 tons 56-lb.; 600 tons 60-lb steel relay rails.

Locomotives—Narrow and standard gauge. 50 locomotives on hand.

Southern Iron and Equipment Co. ATLANTA, GA.

FOR SALE.

New Steel Tee Rails

60 to 80 lb. A. S. C. E. section.

Delivery guaranteed.

RAILWAYS BUILT AND FINANCED.
C. H. RUTTER, Easton, Penna.

LOCOMOTIVE CRANES.

1 New 15-ton Locomotive Crane, immediate delivery.

1 New 10-ton Locomotive Crane, immediate delivery.

THE BROWNING ENGINEERING CO.
Lock Drawer "Q," Cleveland, O.

FOR SALE—RAILS.

For immediate shipment from stock, 8, 12, 16, 20, 30, 40, 70, 75, 80 and 85-lb. New Rails. Also 20, 25, 30, 40, 50, 55 and 60-lb. Relays, for prompt shipment. Cut Rails a Specialty.

RICHARDSON & CO., Inc.

200 Ninth Street, PITTSBURGH, PA.

FOR SALE.

1 Locomotive, 36" gauge, 11x16, 15-ton capacity. 9 Box Cars, 54' long, 60,000 lbs. capacity. 30 Box Cars, 30' long, 40,000 lbs. capacity. 200 tons 56-lb. Steel Relays. 150 tons 60-lb. Steel Relays. 50 tons 53-lb. Steel Relays. Also New Rails, 8 to 40 lbs.

L. WOLF & BRO.,

50-51-52 Mitchell Bldg., CINCINNATI, OHIO.

STEEL RAILS.

New and Relaying Rails, all weights, for prompt shipment. Frogs, Switches and Crossings. Write us for prices.

STRINGFELLOW & WEBSTER,
RICHMOND, VA.

Alabama Frog & Switch Co.

ANNISTON, ALA.

Manufacturers of

Railroad Crossings, Frogs,

Switches, Switch Stands, Rail Braces, Etc.

NEW LIGHT STEEL RAILS.

12 lb. to 40 lb. per yard and Splices.

New Heavy Sections to 80 lb.

Narrow Gauge Railway Equipment.

Cars, Locomotives, Switches, etc.

WONHAM & MAGOR,

Columbia Building, NEW YORK.

STEEL RAILS.

NEW AND RELAYING AND ALL ACCESSORIES.
Frogs, Switches, Crossings, Etc.

GEORGE H. CAREY,

1 Broadway, NEW YORK.

OUR BARGAIN LIST OF MATERIAL.

When you are in the market for Supplies of any kind, consult us before placing your order. Our establishment is the LARGEST in the world. Our Main Buildings and Warehouses cover 20 acres of land. All of the material that we offer for sale is in our stock ready for immediate delivery.

If you are in a special rush for any material, telegraph us at our expense for quotations.

We invite you to call and inspect our Institution when in the city. Five long-distance 'phones, all Yards 857. We use Western Union and A. B. C. codes.

RADIATION.

50,000 ft. factory radiation, sizes from 25 to 200 sq. ft. of heating surface each; for single and two-pipe systems. All shapes. Price per square foot heating surface, 15½ cts.

PIPE.

Our stock consists of the following quantities. It is all in good condition, ready for immediate use; re-threaded, new couplings: 50,000 ft. ¾ in. 5,000 ft. 1 in. 1,000 ft. 1 1/8 in. 110,000 ft. 1 1/4 in. 2,000 ft. 1 1/2 in. 6,000 ft. 1 3/4 in. 900 ft. 2 in. 45,000 ft. 2 1/2 in. 1,500 ft. 3 in. 87,000 ft. 3 1/2 in. 1,400 ft. 4 in. 4,000 ft. 4 1/2 in. 1,400 ft. 5 in. 13,000 ft. 5 1/2 in. 400 ft. 6 in. 2,000 ft. 6 1/2 in. 250 ft. 8 in. Also 150,000 ft. 3/4-in. light-wgt. pipe; per ft., 11 cts. 165,000 ft. 4-in. light-wgt. pipe; per ft., 15 cts.

BELTING.

A large stock of first-class, fine second-hand Leather Belts. They are rebuilt, that is, they have been taken apart and put together the same as a new belt, and we ship them under the binding guarantee that you will find them entirely satisfactory; if not, we will take them back from you. Can furnish you single or double thick belts in any width desired at a discount of 80 and 10 per cent. from prevailing Standard List.

Also a quantity of high-grade guaranteed Rubber Belts, any width or ply, for immediate shipment. Telegraphic orders filled same day received. Discount—75 and 10 per cent. from prevailing Standard List.

PULLEYS.

Three carloads of new wood-split pulleys, ranging from 30 to 96 in. dia., and very nearly any size face. Discount, 85 per cent. from prevailing List, for immediate acceptance only.

MANILA ROPE.

A carload of fine used Manila rope, highest grade, ranging from ¾ to 2 in. Per lb., 7c.

IRON ROOFING.

2400 squares of good second-hand galvanized-iron roofing in heavy gauges running about No. 22. Sheets are miscellaneous sizes. It is practically free from nail holes; has been nicely trimmed; 2½ inch corrugated, and is perfectly serviceable for further use. Price per square, \$3.00. Also—1400 squares same as above in black steel. Price per square, \$2.50. Also new roofing.

FELT ROOFINGS.

10,000 rolls of new high-grade felt coverings. It is perfect material, fully guaranteed. We offer: 2 ply, per sq., \$1.15. Vulcanite, per sq., \$1.50. 3 ply, per sq., \$1.35. Rubberoid, per sq., \$1.75. Samples on application. Special prices in large lots.

VALVES.

250 fine second-hand Globe, Angle, Check, Gate and pressure valves; sizes 2½ to 14 in. These valves are perfectly tight, and are guaranteed. We will save you at least 50 per cent.

BOLTS.

Two cars of new mixed bolts—machine, plow, etc. All sizes and diameters; put up in kegs. A handy assortment. Price per pound in 1000-pound lots, 2½ cts.

INCANDESCENT LAMPS.

Guaranteed new; put up 250 in original barrels just as they came from factory. They are not refilled, but are sold to you with the understanding that if, upon trial, you do not find them satisfactory, that we will give you authority to return them to us at our expense for return charges. Can furnish voltages 100 to 115; candle-powers 8, 10, 16, 20 and 25. Bases, Edison and T. H. We name you price on these lamps in barrel lots, with Edison base, each 9½ cts. T. H. base, each 10½ cts.

WIRE ROPE.

We have in stock a quantity of fine second-hand wire rope, six strands, 19 wires to the strand, which has not seen excessive service, and which is in first-class condition for further use: 65,000 ft. 1½ in., 12c. p. ft. 1½ in., 13c. p. ft. 42,000 ft. 1¾ in., 11c. p. ft. 2 in., 18c. p. ft. 13,000 ft. 1¾ in., 14c. p. ft. 2¼ in., 24c. p. ft. In addition to the above, we have all sizes of cable, ranging from ¾ inch up.

GENERAL SUPPLIES.

Our stock includes such items as WIRE, WIRE ROPE, WIRE NAILS, CUT AXES, HARDWARE OF ALL KINDS, ANVILS, PLUMBING MATERIAL, SHAFTING, HANGERS, PULLEYS, TWINE, CORD, ETC., ETC.

ENGINES.

12x30 Fraser & Chalmers Corliss. 30x40 Fraser & Chalmers Corliss. 22x48 Wheelock Corliss. 15½x15 Armstrong & Sims. 16x24 Atlas. 14x15 Armstrong & Sims. 12x12 New York Safety. 14x13 Armstrong & Sims. 16x16 Hendy. 10½x12 Armstrong & Sims. 16x16 Rice. 9½x12 Armstrong & Sims. 7½x10 Hendy. 14x24x14 Westinghouse. 18x30x16 Westinghouse. 13x22x13 Westinghouse. 11x19x11 Westinghouse. 16x24 Bass slide valve. 8x8 Ames "Lively." 10x12 double cylinder, link motion, Marine. 6x7½ vertical center-crank New York Safety. 8 and 12x14 McEwen tandem compound and 35 k. w. 110-volt C. & C. generator, direct connected.

14x24 Cummer. 12x24 slide valve. 18x24 slide valve. 11x14 center crank. 16x28 slide valve. 10x16 center crank. 15x30 slide valve. 10x12 center crank. 14x18 slide valve. 9x18 center crank. 12x30 slide valve. 9x12 center crank.

Catalogue No. 239 on application. CHICAGO HOUSE-WRECKING CO. West 35th and Iron Sts., CHICAGO.

NEW or RELAYING STEEL RAILS FOR SALE.

Prompt Shipment.

12 lb., 16 lb., 20 lb., 25 lb., 30 lb., 35 lb., 40 lb.,
45 lb., 50 lb., 60 lb., and 70 lb. Steel
"T" Rails with complete joints.
Advise us what you want.

ROBINSON & ORR,
419 Wood St., Pittsburgh, Pa.

FOR SALE.

300 tons 60½-lb. steel relaying rails with angle bars,
Alabama and Georgia delivery.
900 tons 70-lb. steel relaying rails with angle bars,
Ohio delivery.
500 tons 48-lb. steel relaying rails with angle bars,
Ohio delivery.
Second-hand locomotives, coaches, steam shovels,
and other railway and contracting material.

THE ISAAC JOSEPH IRON CO.
525-531 Hunt St., Cincinnati, Ohio
522-524 Monadnock Block, Chicago, Ills

Manufacturers Light Steel Rails

16, 20, 25, 30, 35, 40 lbs. per
yard, splice and angle joints
and bolts.

Spikes for all section rails.

Shipment from stock at all
times.

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12,500 tons New Steel T Rails,
60, 70, or 80 lbs. per yard. July
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Locomotives, New and 2nd Hand
Cableway 600 feet long complete.
200-ton 56 lb. Relaying Rails.
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New Rails, all weights.
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Baltimore, Md.
R. R. Equipment, Mine and
Contractors' Supplies.

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1 9x14 Locomotive, 36" gauge.
5 Chicago Pneumatic Riveting Hammers.
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And dealers in New and Second-hand Machinery.
Also carry in stock Hoisting Outfits and
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Two hundred and fifty tons of new forties; two
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Roger Locomotive, good condition; one 15" cyl.
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All of the above standard gauge.

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Excellent Condition.

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Suitable for Logging Roads, Contrac-
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NEW, LIGHT STEEL RAILS

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Immediate Shipment.

16, 20, 25, 30 and 35-lb. Steel "T" Rails
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Mills at Clearfield, Pa.
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We have for sale at a low figure 2000 tons
of Choice 56 lb. Relaying Rails with
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Twenty (20) Flat Cars, 30' long, 20 tons capacity, Diamond Trucks, M. C. B. Automatic
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Pittsburg, Pa., P. R. R.

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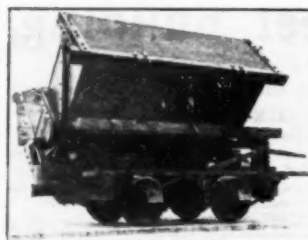
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With heavy angle splice bars
An unusually fine lot of relayers. Quick ship
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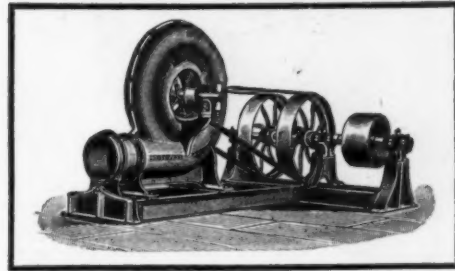
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 Seven Rebuilt Logging Cars, 36" gage.
 Steam Shovels, Hoisting Engines, etc.

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Track Bolts with cut and cold rolled thread.



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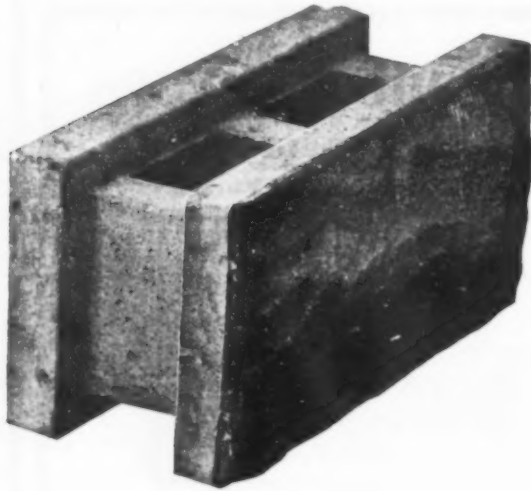
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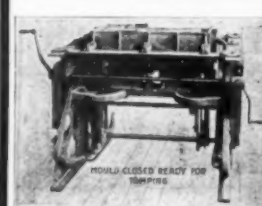
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Give Vertical Flues within that produce the best Ventilation, retard rain and moisture and are positive non-conductors of heat and cold. These bricks are light, strong and hygienic. All to fit without any cutting.

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ADJUSTABLE Makes Blocks any size or shape by simply changing plates AUTOMATIC

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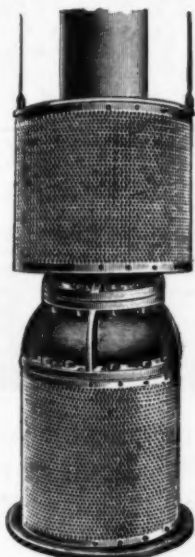
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Pat. May, 1890.

Is provided with two sets of cylindrical side screens, one within the other, and so arranged that the outer one can be raised to or above the surface of the water to have refuse removed therefrom. The inner screen is cleaned by the outer one scraping down over it. Do you want to hear more about this valve? Write for Circular.

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For Hotels, Dyehouses Commercial Laundries and Domestic Use.
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Latest. "Up-To-Date." "Prices Right."
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grinding wheels and sharpening stones are so eminently superior to any other abrasive materials on earth that users of them can't help telling friends of better work at less cost.

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VARIABLE STROKE BELT POWER BOILER FEED
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30,000 in use.

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Freight Elevators

FOR
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FREIGHT ELEVATORS,

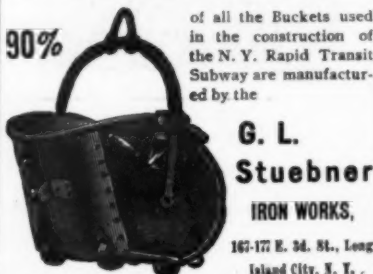
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167-171 E. 34. St., Long Island City, N. Y.

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SAFETY HOIST



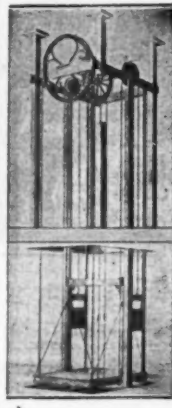
Is simple in construction, practical in operation and never gets out of order. It's the quickest acting hoist made. It will outlast two hoists of any other make as the quality of the raw material is the very best that can be produced, and do more work—do it better, quicker and cheaper, too.

These are broad statements, but we have the facts to back them up, and will be glad to prove them to your satisfaction.

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Electric, Hydraulic, Belt and Hand

For Passenger or Freight Service.

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CRANES ELECTRIC CRANES HAND CRANES JIB

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an emery wheel is seldom its best recommendation. More important is the work it will do in a specified time. Therefore, it is of the utmost importance whether you buy a wheel that "cuts" or simply grinds.



EMERY WHEELS

Cut free and fast, work the same wet or dry, and are guaranteed not to injure the temper of the tool under either condition.

ABRASIVE MATERIAL COMPANY,

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TRANSMISSION
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AND JIB**CRANES**THE
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COLUMBUS, OHIO.**Our Portable Hoist Is a Great Labor Saver**

designed especially for piling cases, bales and heavy packages, or elevating them through a door or opening. A man can lift 800 pounds with it. Easily handled, and while strong and substantial, can be rolled around at will. Many mills are using them.

(Copy)

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Yours, etc.,

TROY KNITTING CO.



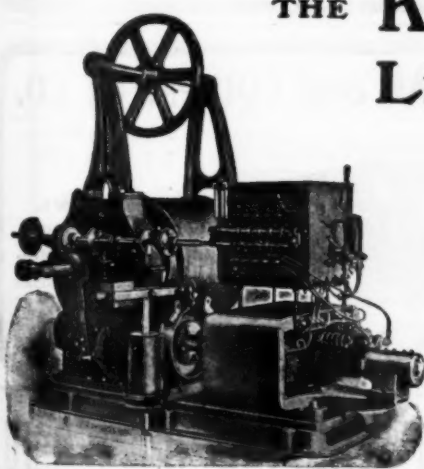
KNUCKLE JOINT HOIST.

WITHOUT KNUCKLE JOINT.

JOHN E. LARRABEE, Amsterdam, N. Y.**THE MORSE ELEVATOR,**

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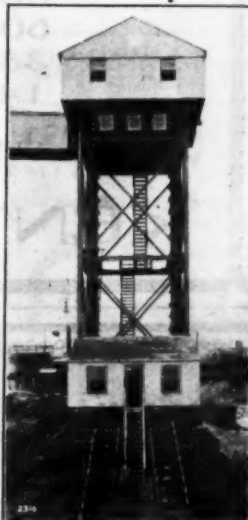
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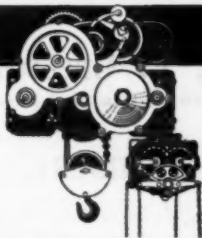
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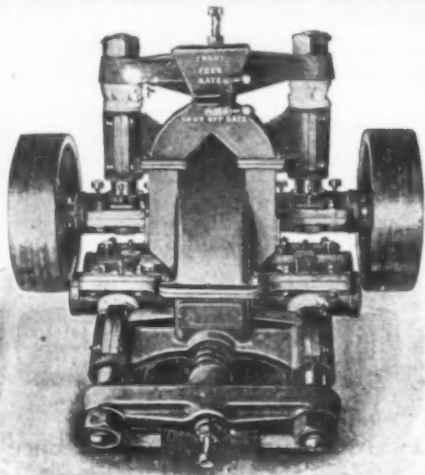
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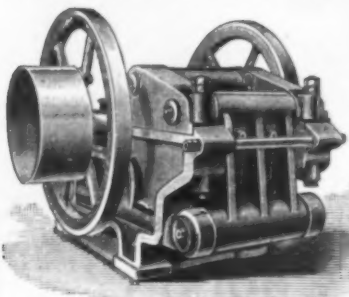


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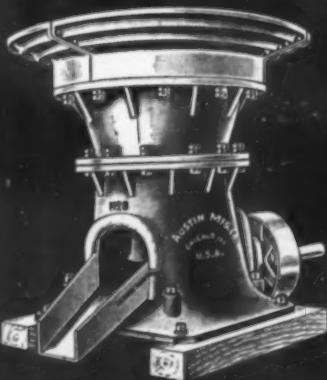
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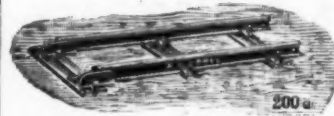
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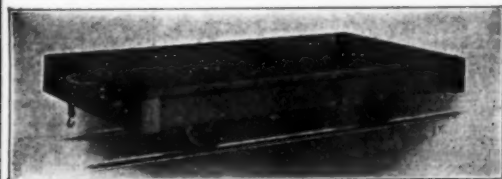


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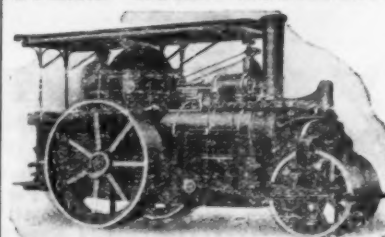
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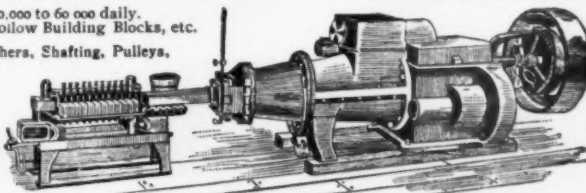
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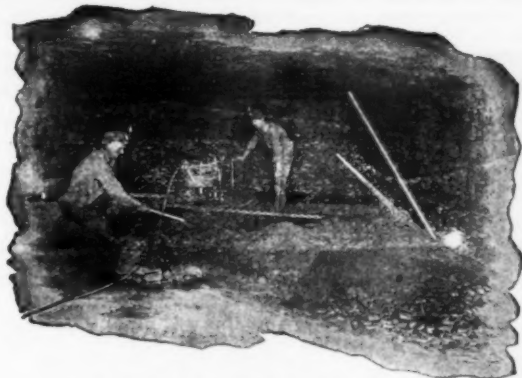
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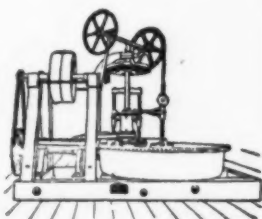
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10-in.	25 "	15-in.	30 "	4-in. x 3-in. x 5/16-in.	
10-in.	30 "	Angles—Even Legs		4-in. x 3-in. x 7/16-in.	
12-in.	31½ "	2-in. x 2-in. x ¼-in.		5-in. x 3½-in. x ¾-in.	
12-in.	40 "	2½-in. x 2½-in. x ½-in.		6-in. x 3½-in. x ¾-in.	
15-in.	42 "	3-in. x 3-in. x ¾-in.		6-in. x 3½-in. x ¾-in.	
15-in.	50 "	3-in. x 3-in. x ¾-in.		6-in. x 3½-in. x ¾-in.	
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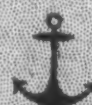
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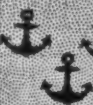
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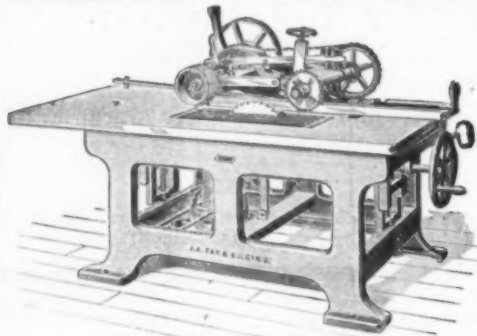
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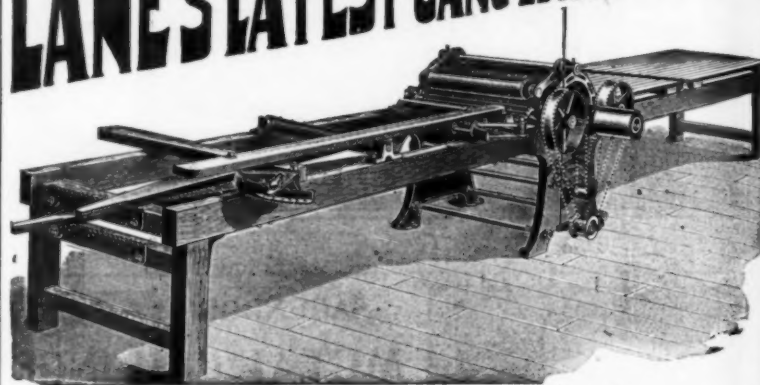
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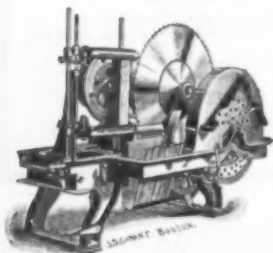
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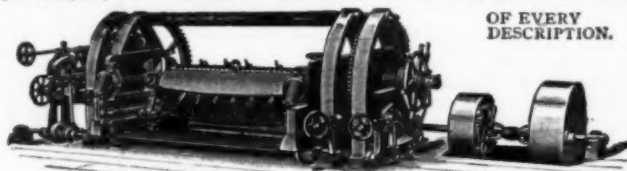
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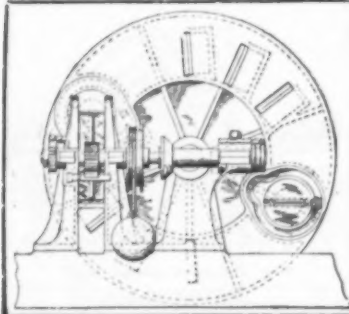
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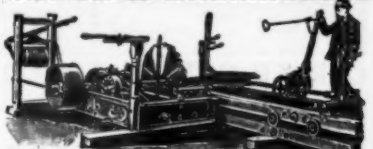
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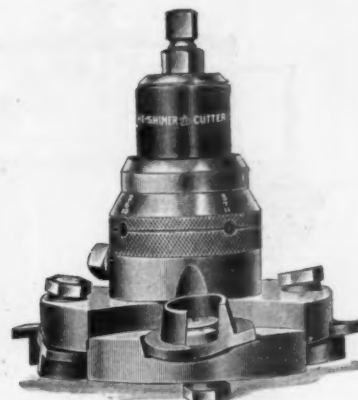
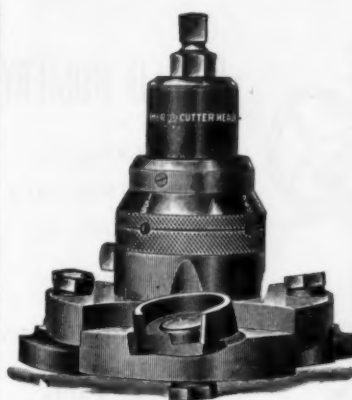
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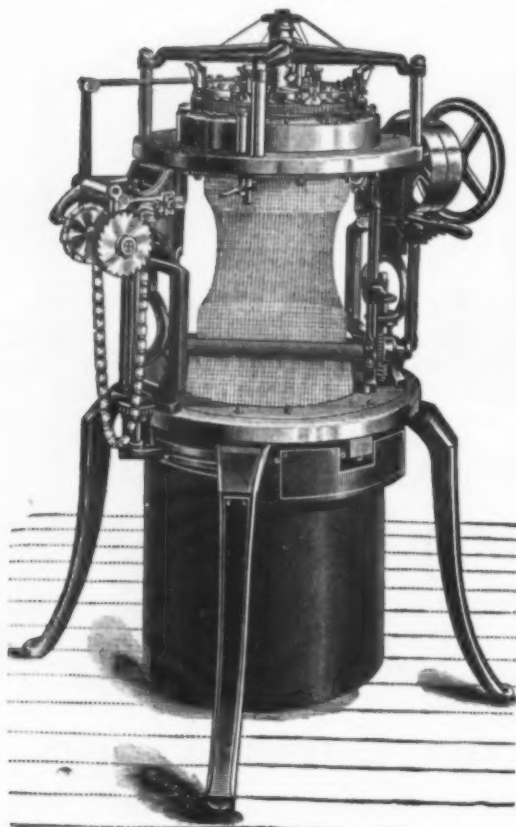
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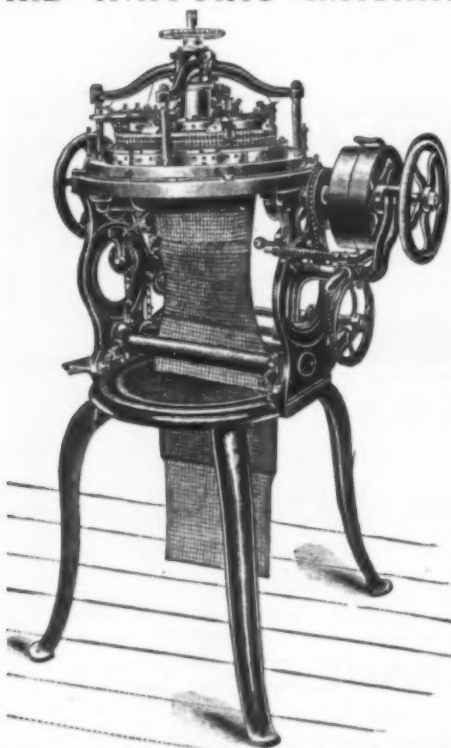
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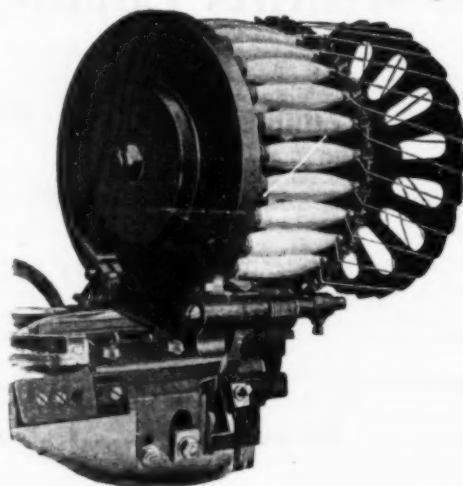
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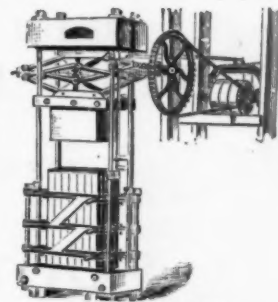
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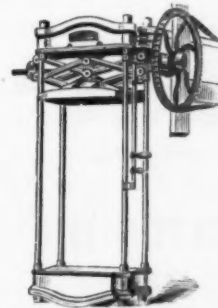
INDIA ALKALI WORKS,

Cleans Wool,
Mill Floors,
Anything.
Boston.

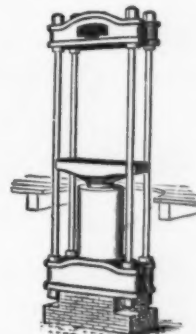
If you wish to keep posted on the pro-
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**Knuckle-Joint
Cloth-Baling Yarn and Press.**



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Cloth-Baling and Finishing Press.**



**Hydraulic
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Manufactured by

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SOUTHERN AGENT.

Also, OIL MILL MACHINERY,

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Tempered and Side Ground Card Clothing.
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 LONG DISTANCE PHONE. REGULAR SIZES OF CLOTHING ALWAYS IN STOCK.



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are preferred by the first-class cotton, woolen and
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WHY IS THIS PREFERENCE?

LOWELL CRAYON CO.

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Our Dust Exhaust Systems
 are the nearest approach to Perfection yet reached in this class of work.

THEY MAKE YOU MONEY.
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 Write Today For Prices On

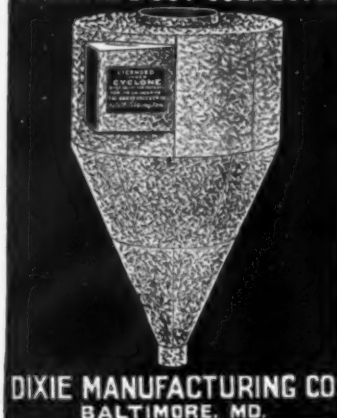
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THE HARTFORD BLOWER CO.
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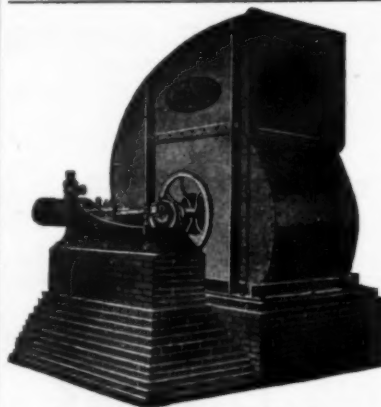
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 Dust Collectors,
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Ammonia.....	Not Less Than 8.50 Per Cent.
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DAVIS LOCOMOTIVE, STEAM AND SMITHING COALS

Sole Agent for **Big Vein Cumberland Coal.**DAVIS COKE FOR ORE SMELTERS, FOUNDRIES,
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Have no equal in simplicity, compactness, durability and efficiency, having no outside valve gear, They will do more work with less power than any others.

BOILER FEEDING, MINES, FIRE PURPOSES, REFINERIES, BREWERIES, RAILROADS, TANNERIES, IRRIGATING, FILLING TANKS.

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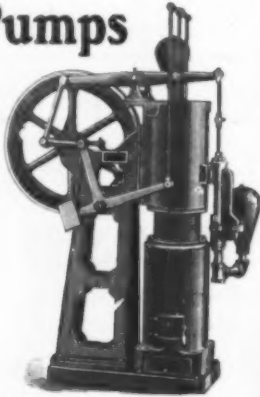
High Vacuum Surface or Barometric Condensers for

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**DENNEY IMPROVED
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HOT AIR Pumps**



Reliable, Economical,
Safe and Noiseless.

Always ready for service. Can be operated by any one. Use any kind of fuel. Built for years by

AMERICAN MACHINE CO.
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Builders of Special and Experimental Machinery.

LOW PRICES FIRST-CLASS WORK.

LET US HAVE YOUR SPECIFICATIONS
SINGLE DUPLEX & ROTATIVE
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THE JOHN H. MCGOWAN CO.
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SIMPLE COMPOUND & COMPOUND CONDENSING-
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**Well Drilling
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Over 75 styles and styles, for drilling either deep or shallow wells in any kind of soil on wheels or on gines or horse powers. Strong, simple, durable. Any mechanic can operate them. Send for catalog.

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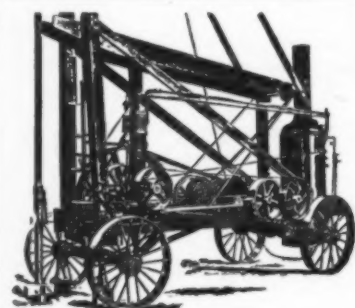
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Cook's System of Wells for Cities, Towns, Villages, Railroads, Ice Plants, Breweries and Manufacturers.

Cook's Patent Brass Tube Well Strainer.

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Estimates furnished upon application. Write for Catalogue and Prices.



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Run by Steam, Gasoline or Horse-power; for Water, Oil or Gas Wells, any depth. Forty-two different styles. Send for Catalog "A."

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**DEEP WELL
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Double and single acting Pumps of large capacity, for city and village water-works, mines and factories.

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Railroad and Township Culverts, Flange Pipe and Special Castings of every description.

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ALL SIZES. BELT DRIVEN AND DIRECT CONNECTED.

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DRILLING
MACHINES**



FOR
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Oil or
Gas
Wells.**

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VANDUZEN STEAM JET PUMPS
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Pumps any kind of Liquid. Always in order. Never clogs nor freezes. Fully Guaranteed. COST \$1 AND UPWARD. Especially useful for Mines, Quarries, Flats, Wells, Clay Pits, Breweries, Steamships, Ferryboats or any place where steam is available and liquid to be pumped. A full supply in stock. Address, **LEONARD & McCAY, New York City.** **HUNTER & DICKSON, Philadelphia, Pa.** **LOMBARD COMPANY, Augusta, Ga.** **CAFFER, FISHLEMAN, New Orleans, La.** **PACIFIC MERCANTILE CO., San Francisco, Cal.** **SMITH COURTNEY CO., Richmond, Va.** **KEITH-SIMMONS CO., Nashville, Tenn.**

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MYERS
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Double-acting, Lift, Power, Tank and Spray
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of all kinds. Write for Circle and Prices
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We have been established since July 3, 1885, and are equipped with the best machinery and tools for wells with depth to 1000 ft.; deeper if desired.

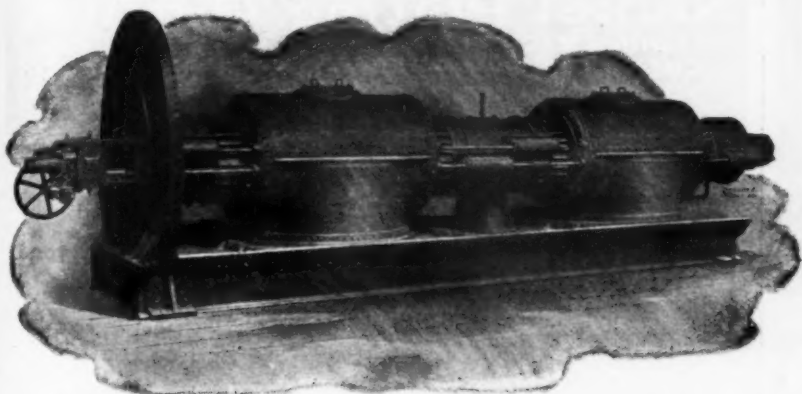
Reference cheerfully given of work done. All correspondence given prompt attention.

**Water
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For Towns, Cities, Mills and Industries of every kind. Well Systems and Air Lift Plants Installed Complete.

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One unit of two pairs of 21" cylinder gate Victor Turbines on horizontal shaft in steel flume, the flume sheet being removed to show the center discharge cases, etc. For further particulars, address

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The best means for the development and utilization of

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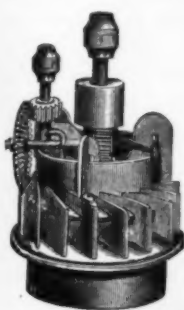
by the most modern, economic and improved methods for electric lighting, power transmission, mining and general industrial purposes, is afforded by the

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Its great capacity, high speed, unequaled efficiency, easy working gate, steady motion and close regulation will commend it to all users.

Our varieties of wheels enable us to build them for heads up to 2000 feet, and for units up to 12,000 H. P.

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TURBINES

Adapted to COTTON MILLS and POWER PLANTS

On Horizontal or Vertical Shafts.

Risdon Cylinder and Register Gate Turbines.

Tests in Holyoke Flume: Full Gate 3475 3475 3475 Average .195

Alcott's High-Duty Turbine, High Efficiency, Easy Working Gate. Simple, Durable.

Taylor Sleeve Gate Turbine, Largest Power ever obtained from a wheel of same dimensions.

RISDON-ALCOTT TURBINE CO., Sole Mfrs.

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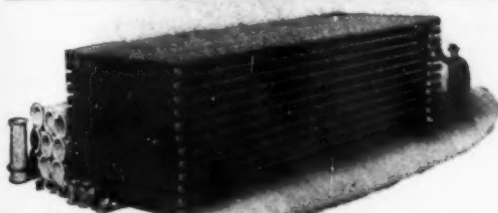
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UPRIGHT AND HORIZONTAL.

Warranted to give the most power for least amount of water used, of any wheel on the market.

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MUNICIPAL PLANT

For Manufacturing Plants, Railroads, Small Villages and Private Residences.

Galvanized Steel "STAR" COLUMN TOWERS, Any Height.

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will stand the roughest usage. Pumps gritty water with ease; has no piston rods, stuffing boxes or outside valve gear.

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Have had years of experience in Oil Well Drilling.

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Valves for Extreme High-Pressure Steam, Water, Gas, Oil, Ammonia, etc., a Specialty.

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General Founders and Machinists.

Sizes 1 1/2 in. to 30 in. diameter inclusive.



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Free Land With Hydraulic and Electric Power On River and Railroad.

We own 67 acres of fine level land, two miles from Lynchburg, on the banks of the James and on C. & O. R. R. We also own an unlimited amount of power—hydraulic and electric. Hydraulic, our great dam, now completed, will supply 4000 H. P.; our electric plant, now under construction, will give large additional power.

Mr. Manufacturer, we will give you as much of our 67 acres as you need to build your plant on, for the purpose of selling you some of our power at a low rate. We'll help you in every way we can. Lynchburg is a hustler—she has three lines of railway—unlimited and cheap power—shrewd and far-seeing business men—good street railway facilities—good papers—and public men most liberal to new enterprises. We'll give you our lands and our help if you'll come here.

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A prosperous town drawing support from the three great staples of the South—Cotton, Sugar and Rice. A centre for Poultry and Truck with considerable manufacturing interests, wants more manufactures and offers

Free Sites. Cheap Fuel.
Only 14 Miles From Jennings Oil Field.
Exemption From Taxation. Cash Interest.
Wants Especially a Small COTTON-OIL MILL.

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Provisions of Article 230 of the Constitution of the State of Louisiana.

"There shall also be exempt from parochial and municipal taxation for a period of ten years from the first day of January, 1900, the capital, machinery and other property employed in mining operations and in the manufacture of textile fabrics, yarns, rope, cordage, leather, shoes, harness, saddlery, hats, clothing, flour, machinery, articles of tin, copper and sheet iron, agricultural implements, and furniture and other articles of wood, marble or stone; soap, stationery, ink and paper, boat building, and fertilizers and chemicals; provided, that not less than five hands are employed in any one factory."

LAFORCHE PROGRESSIVE UNION, Thibodaux, La.

BALTIMORE STEAM PACKET CO.

OLD AND RELIABLE

BAY LINE.

CARRYING U. S. MAIL.

Elegant Steamer Daily, except Sunday, from "BAY LINE" PIER, 1013 LIGHT STREET, at 6:30 P. M., for OLD POINT COMFORT, NORFOLK, PORTSMOUTH AND ALL POINTS SOUTH. Connects at Old Point Comfort, Va., with C. & O. R. R. for Richmond. Connects at Portsmouth to Atlanta. At Norfolk, connects with Atlantic Coast Line, Norfolk & Carolina, Norfolk & Southern and Norfolk & Western Railroads, and with Old Dominion Line for New Bern and Washington, N. C.

Meals on the European plan. Luxurious State-rooms. Electric Lights. Steam Heat. Berths Free. Reserve state-rooms in advance at Bay Line Ticket Office, 103 East Baltimore St.; Albaugh's, 15 N. Charles St., and Seaboard Air Line Office, Continental Trust Bldg. Telephone C. & P. 1435; Maryland, Courtland 485. EMMET BROWN, General Pass. Agent. KEY COMPTON, General Freight Agent. JOHN R. SHERWOOD, V. P. and Gen. Mgr.

**Rubber Stamps, Seals,
Stock Certificates and Bonds,
Manufactured by
NATIONAL SEAL WORKS
P. O. Box 60, RICHMOND, VA.**

CHESAPEAKE STEAMSHIP COMPANY.

"Chesapeake Line."

Elegant passenger steamers AUGUSTA and ATLANTA, for Old Point Comfort and Norfolk, Va. Steamers leave Baltimore daily (except Sunday) at 6:30 P. M.

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Elegant passenger steamers CHARLOTTE and BALTIMORE, for West Point and Richmond, Va. Steamers leave Baltimore Daily (except Sunday) at 5 P. M., and arrive West Point 7:30 A. M., and Richmond at 9:15 A. M.

Steamers leave Baltimore from Piers 18 and 19 Light Street Wharf.

Through tickets to all points can be secured, baggage checked and state-rooms reserved from the City Ticket Offices, Nos. 109, 120 and 127 E. Baltimore Street or the General Offices, 530 Light Street, Baltimore, Md.

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For BOSTON and the EAST—Every Monday, Tuesday, Thursday and Saturday at 6 P. M.

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POLISHING MACHINERY.
CHEMICALS.
DYNAMOS.

THE HANSON & VAN WINKLE CO.
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ADDRESS DEPARTMENT A.

The Results of NOT Advertising.

In a recent interview, Col. A. A. Pope of the American Bicycle Co., has very forcibly described the reasons for that company's being in the hands of a receiver. He said:

"When the trust was organized the wiseacres said:

"We are spending our earnings for advertising—if we combine all the leading companies we need only do as much advertising for all as one company is now doing.

"This policy was followed and the result has been—the trust is in the hands of a receiver and the industry paralyzed.

"The Cracker Trust, the Tobacco Trust and others have been notable successes—the Bicycle Trust a notable failure.

"The first have been liberal,—nay, prodigal, advertisers. They have been constantly placing new names before the public, and almost without exception achieving individual successes.

"The cessation of advertising killed the bicycle business, and the way to revive it is to resume that same important matter. You can see how I feel in the matter when I tell you that I spent \$500,000 in one year in that sort of publicity, and that it is my idea for the future—to advertise."

As the manufacturer of the Columbia Bicycle, Col. Pope was some years ago one of the most liberal advertisers in America, and through advertising he made the Columbia wheel known around the world.

Study these facts and you may see the wisdom of enlarging your advertising expenditure.



The Most Direct Route

FROM
Southern Points
TO
**TOLEDO
DETROIT
INDIANAPOLIS
CHICAGO**

and Points in Ohio, Indiana, Illinois
and the Northwest

15 VIA

C. H. & D. RY.

**Speed
Safety
Luxury**

For full information regarding time of
Trains, Rates, etc., address,

D. G. EDWARDS,
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Stencils, Checks, Brass and Rubber Stamps, and Stock Certificates

Manufactured by

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124 S. Howard St., BALTIMORE, MD.
WRITE FOR PRICES.



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TRAINS EVERY HOUR
ON THE HOUR

BETWEEN
BALTIMORE and WASHINGTON

WEEK DAYS

FROM BALTIMORE	FROM WASHINGTON
One at 8 A. M.	One at 7 A. M.
One at 9 A. M.	One at 8 A. M.
One at 10 A. M.	One at 9 A. M.
One at 11 A. M.	One at 10 A. M.
One at 12 Noon	One at 11 A. M.
One at 1 P. M.	One at 12 Noon
One at 2 P. M.	One at 1 P. M.
One at 3 P. M.	One at 2 P. M.
One at 4 P. M.	One at 3 P. M.
One at 5 P. M.	One at 4 P. M.
One at 6 P. M.	One at 5 P. M.
One at 7 P. M.	One at 6 P. M.
One at 8 P. M.	One at 7 P. M.

And many others. Some 45 minute trains
and the majority 50 minutes.

ROYAL BLUE SERVICE.

Unless you read the
Manufacturers' Record
regularly you cannot keep
fully advised as to the
industrial and railroad
advancement of the South
and Southwest.

Railroads Inviting Factories.

SOUTHERN MILL FOR SALE.

Price \$3,000.00

This is a small knitting mill, located in one of the best towns in the Carolinas. Death of Manager and consequent disagreements among stockholders has thrown it on the market for one tenth its actual value. The plant consists of

20 Excelsior 160 needle machines,
1 Looper, 14 point,
1 Ribber, double feed,
2 Singer Sewing Machines,
1 Dryer, 200 dozen capacity,
1 Emery Wheel and Stand,

shafting, belting, tables, stamping outfit, etc., all installed in nice building, with engine, boiler and dye room attached, ten acres of ground and three tenant houses. A splendid opportunity for an experienced man with small capital to start in business for himself. One of the stockholders will take half interest.

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MANUFACTURING
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FARMING.**

Along the lines of the

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all, the wonderful market for the finished product of mills and
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Iron-Working Plants,
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Clay-Working Plants of All Kinds.**

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many other lines, are available along the St. Louis & San Fran-
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Send for copy of new book entitled "Opportunities" giving
full information regarding openings for factories, investments, etc.

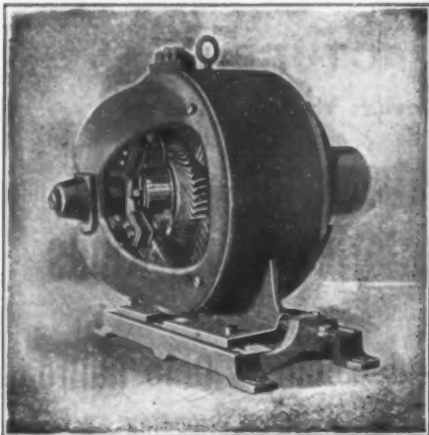
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FEED LUMP CARBIDE YIELDING MORE AND BETTER GAS	DAVIS	"RUN LIKE A CLOCK"	GAS GENERATORS		DO NOT CLOG BURNERS SAFEST PLANTS MADE
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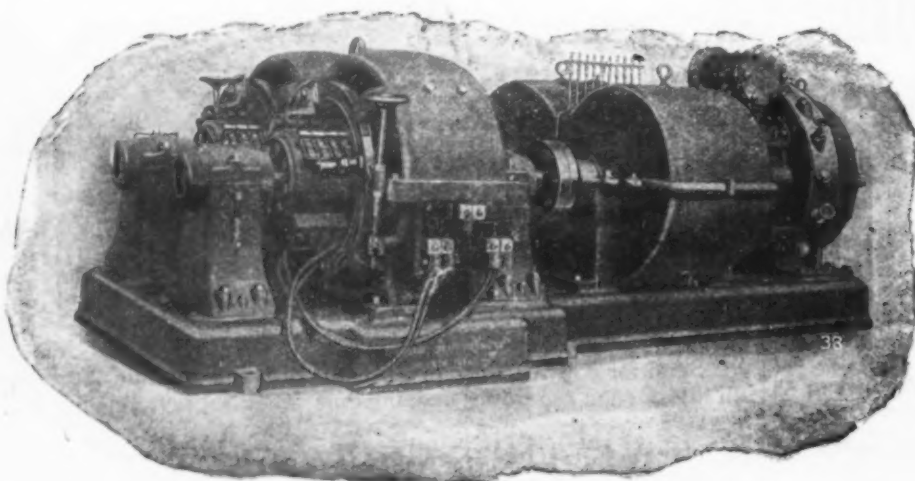
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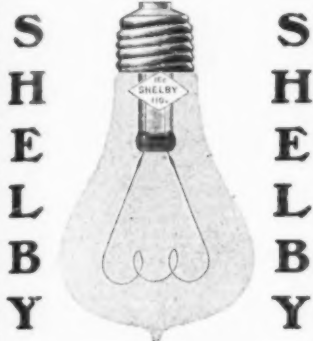
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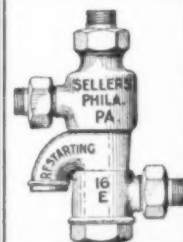
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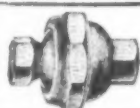
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